SONY

VAIO Slimtop™ System Reference Manual

PCV-LX810/PCV-LX910

Notice to Users

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Owner's Record

The model number and serial number are located on the back of your VAIO® computer. Record the serial number in the space provided here. Refer to the model and serial number when you call your Sony Service Center.

Model Number: PCV-LX810/PCV-LX910

Serial Number:_____

Safety Information and Caution

CD-RW/DVD Combo Drive Laser Diode Properties

Laser Output (CD-RW)	1.08 mW (Read) 32 mW (CD-RW Write) 35 mW (CD-R Write)
Laser Output (DVD-ROM)	0.4 mW (Read)
Wave Length (CD-RW)	780 nm
Wave Length (DVD-ROM)	650 nm

- To prevent fire or shock hazard, do not expose your desktop to rain or moisture. To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.
- Never install modem or telephone wiring during a lightning storm.
- Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
- Never touch uninsulated telephone wire or terminals unless the telephone line has been disconnected at the network interface.
- Use caution when installing or modifying telephone lines.
- Avoid using the modem during an electrical storm.
- Do not use the modem or a telephone to report a gas leak in the vicinity of the leak.
- The socket outlet shall be installed near the equipment and shall be easily accessible.

! To change the backup battery, contact your nearest Sony Service Center.

! Caution - The use of optical instruments with this product will increase eye hazard. As the laser beam used in this product is harmful to the eyes, do not attempt to disassemble the drive cabinet. Refer servicing to qualified personnel only.

! Danger - Visible and invisible laser radiation when open. Avoid direct exposure to beam.

! For CD-RW/DVD combo drive: Danger - Invisible laser radiation when open. Avoid direct exposure to beam.

! Caution - For ADSL modem models, to reduce the risk of fire, use only No. 26 AWG or larger telecommunication line cord.

- Pour prévenir tout risque d'incendie ou d'électrocution, garder cet appareil à l'abri de la pluie et de l'humidité.
- Pour prévenir tout risque d'électrocution, ne pas ouvrir le châssis de cet appareil et ne confier son entretien qu'à une personne qualifiée.
- Ne jamais effectuer l'installation de fil modem ou téléphone durant un orage électrique.
- Ne jamais effectuer l'installation d'une prise téléphonique dans un endroit mouillé à moins que la prise soit conçue à cet effet.
- Ne jamais toucher un fil téléphonique à découvert ou un terminal à moins que la ligne téléphonique n'ait été débranché de l'interface réseau.
- Soyez très prudent lorsque vous installez ou modifiez les lignes téléphoniques.
- Évitez d'utiliser le modem durant un orage électrique.
- N'utilisez pas le modem ni le téléphone pour prévenir d'une fuite de gaz vous êtes près de la fuite.
- L'appareil doit être le plus près possible d'une prise murale pour en faciliter l'accès.

! Pour changer la pile de rechange, veuillez contacter votre centre de service Sony le plus près.

! Avertissement - L'utilisation d'instruments optiques avec ce produit augmente les risques pour les yeux. Puisque le faisceau laser utilisé dans ce produit est dommageable pour les yeux, ne tentez pas de désassembler le boîtier. Adressez-vous à un agent de service qualifié.

! Danger : Radiation laser visible et invisible si ouvert. Évitez l'exposition directe au faisceau.

! Pour les combos CD-RW/DVD: Danger - Radiation laser visible et invisible si ouvert. Évitez l'exposition directe au faisceau.

! Attention - Pour ADSL modele modem, afin de réduire les risques d'incendie, n'utilisez qu'un cordon de communication N0. 26 AWG ou plus gros.

For questions regarding your product or for the Sony Service Center nearest you, call 1-888-476-6972 in the United States or 1-800-961-7669 in Canada.

Sony Customer Support can be reached at http://www.sony.com/pcsupport.

Regulatory Information

Declaration of Conformity

Trade Name:	SONY
Model No.:	PCV-LX810/PCV-LX910
Responsible Party:	Sony Electronics Inc.
Address:	680 Kinderkamack Rd Oradell, NJ 07649
Telephone:	201-930-6972

This phone number is for FCC-related matters only.

This device complies with Part 15 of FCC Rules. Operation is subject to the two following conditions:

(1) This device may not cause harmful interference, and

(2) this device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

Only peripherals (computer input/output devices, terminals, printers, etc.) that comply with FCC Class B limits may be attached to this computer product. Operation with noncompliant peripherals is likely to result in interference to radio and television reception.

All cables used to connect peripherals must be shielded and grounded. Operation with cables, connected to peripherals, that are not shielded and grounded, may result in interference to radio and television reception.

FCC Part 68

This equipment complies with Part 68 of the FCC rules. The FCC Ringer Equivalence Number (REN) for this equipment is 0.79 B. If requested, this information must be provided to the telephone company.

This modem uses the USOC RJ-11 telephone jack.

The REN is used to determine the quantity of devices which may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of the RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to the line, as determined by the total RENs, contact the telephone company to determine the maximum REN for the calling area.

If the terminal equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations or procedures that could affect the operations of the equipment. If this happens, the telephone company will provide advance notice in order for you to make the necessary modifications in order to maintain uninterrupted service.

If trouble is experienced with this modem, for repair or warranty information, please contact 1-888-4SONY-PC, or write to the Sony Customer Information Center, 12451 Gateway Blvd., Fort Myers, FL 33913. If the trouble is causing harm to the telephone network, the telephone company may request that you remove the equipment from the network until the problem is resolved.

Repair of this equipment should be made only by a Sony Service Center or Sony authorized agent. For the Sony Service Center nearest you, call 1-888-4SONY-PC (1-888-476-6972).

This equipment cannot be used on public coin service provided by the telephone company. Connection to Party Line Service is subject to state and possible provincial tariffs. (Contact the state or provincial utility service commission, public service commission, or corporation commission for information.)

Telephone Consumer Protection Act of 1991 (United States)

The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device to send any message via a telephone facsimile machine unless such message clearly contains, in a margin at the top or bottom of each transmitted page or on the first page of the transmission, the date and time it is sent and an identification of the business, other entity, or individual sending the message, and the telephone number of the sending machine or such business, other entity, or individual.

In order to program this information into your facsimile, see your fax software documentation.

Telephone Consumer Guidelines (Canada)

Please refer to your telephone directory under 'Privacy Issues' and/or 'Terms of Service.' For more detailed information, please contact:

CRTC
Terrasses de la Chaudiére, Tour centrale
1 promenade du Portage, 5 étage Hull PQ K1A 0N2.

This Class B digital apparatus complies with Canadian ICES-003.

Cet àppareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

DISPOSAL OF LITHIUM BATTERY

You can return your unwanted lithium batteries to your nearest Sony Service Center or Factory Service Center.

✍ In some areas the disposal of lithium batteries in household or business trash may be prohibited.

For the Sony Service Center nearest you, call 1-888-476-6972 in the United States or 1-800-961-7669 in Canada.

- **Do not handle damaged or leaking lithium batteries.**
- **Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.**
- **The battery pack used in this device may present a fire or chemical burn hazard if mistreated. Do not disassemble, heat above 212°F (100°C) or incinerate.**
  Dispose of used battery promptly.
  Keep away from children.

- **Ne pas manipuler les batteries au lithium qui fuient ou sont endommagées.**
- **Une batterie non conforme présente un danger d'explosion. La remplacer seulement par une batterie identique ou de type équivalent recommandé par le fabricant. Évacuer les batteries usées selon les directives du fabricant.**
- **La manutention incorrecte du module de batterie de cet appareil présente un risque d'incendie ou de brûlures chimiques. Ne pas démonter, incinérer ou exposer à une température de plus de 100°C. Évacuer promptement la batterie usée. Garder hors de portée des enfants.**

INDUSTRY CANADA NOTICE

NOTICE: The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements document(s). The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection.

The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be coordinated by a representative designated by the supplier. Equipment malfunctions or any repairs or alterations made by the user to this equipment may give the telecommunications company cause to request that the user disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

CAUTION: Users should not attempt to make such connections themselves, but should contact the appropriate electrical inspection authority, or electrician, as appropriate.

NOTICE: The Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed 5. The Ringer Equivalence Number for this equipment is 0.79 B.

AVIS DE L'INDUSTRIE CANADA

AVIS: L'étiquette d'Industrie Canada identifie le matériel homologué.

Cette étiquette certifie que le matériel est conforme aux normes de protection, d'exploitation et de sécurité des réseaux de télécommunications, comme le prescrivent les documents concernant les exigences techniques relatives au matériel terminal. Le Ministère n'assure toutefois pas que le matériel fonctionnera à la satisfaction de l'utilisateur.

Avant d'installer ce matériel, l'utilisateur doit s'assurer qu'il est permis de le raccorder aux installations de l'entreprise locale de télécommunication. Le matériel doit également être installé en suivant une méthode acceptée de raccordement. L'abonné ne doit pas oublier qu'il est possible que la conformité aux conditions énoncées ci-dessus n'empêche pas la dégradation du service dans certaines situations.

Les réparations de matériel homologué doivent être coordonnées par un représentant désigné par le fournisseur. L'entreprise de télécommunications peut demander à l'utilisateur de débrancher un appareil à la suite de réparations ou de modifications effectuées par l'utilisateur ou à cause de mauvais fonctionnement.

Pour sa propre protection, l'utilisateur doit s'assurer que tous les fils de mise à la terre de la source d'énergie électrique, des lignes téléphoniques et des canalisations d'eau métalliques, s'il y en a, sont raccordés ensemble. Cette précaution est particulièrement importante dans les régions rurales.

Avertissement: L'utilisateur ne doit pas tenter de faire ces raccordements lui-même; il doit avoir recours à un service d'inspection des installations électriques, ou à un électricien, selon le cas.

AVIS: L'indice d'équivalence de la sonnerie (IES) assigné à chaque dispositif terminal indique le nombre maximal de terminaux qui peuvent être raccordés à une interface.

La terminaison d'une interface téléphonique peut consister en une combination de quelques dispositifs, à la seule condition que la somme d'indices d'équivalence de la sonnerie de tous les dispositifs n'excède pas 5. L'indice d'équivalence de la sonnerie de ce matériel est de 0.79 B.

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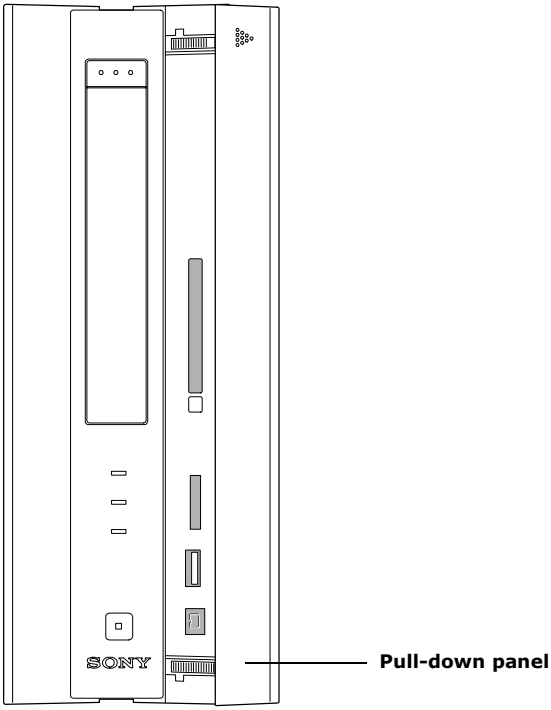
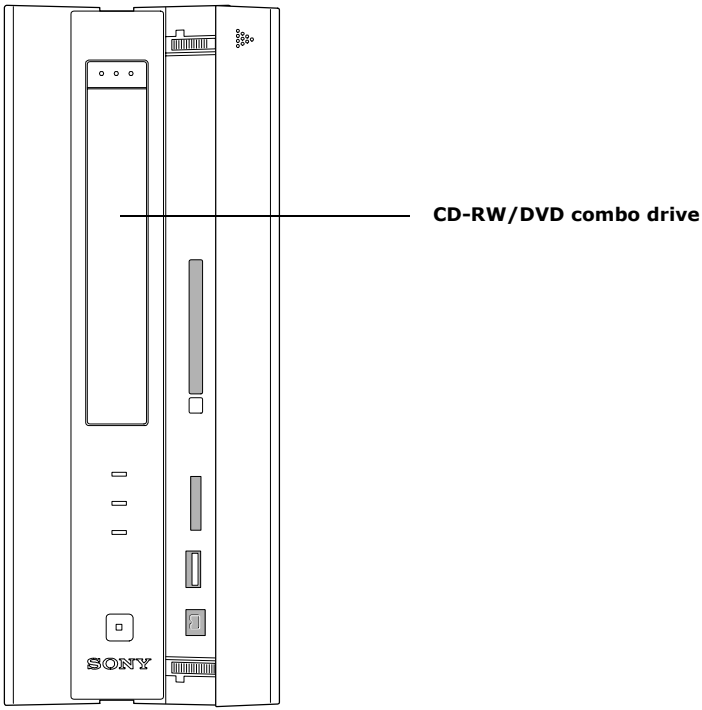
Chapter 1
Identifying Components

The following sections identify and describe each component that is visible from the exterior of the VAIO® Computer. Internal components are identified in Chapters 3, 4, and 5 of this manual.

Front View



Drive



Drive	Description
CD-RW/DVD combo drive	
CD-RW read*	24X maximum performance
CD-RW write†	4X maximum performance
CD-R read‡	32X maximum performance
CD-R write**	8X maximum performance
CD-ROM read††	32X maximum performance
DVD-ROM read‡‡	8X maximum performance

* The maximum CD-RW reading speed is 24X.

† The CD-RW writing speed may vary, depending on the media. The maximum CD-RW writing speed is 4X.

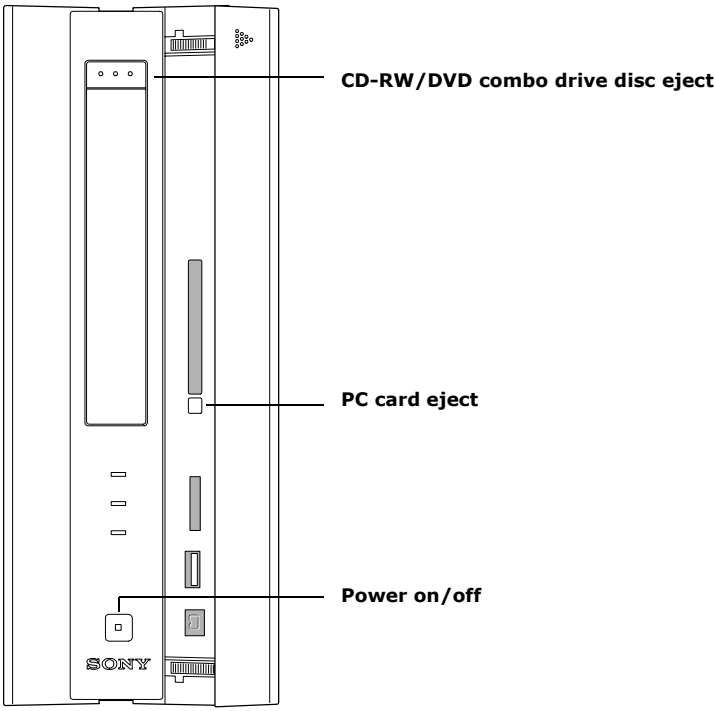
‡ Data on the CD-R is read at a variable transfer rate, ranging from 13X at the innermost track to 32X at the outermost track (the data transfer standard 1X rate is 150 KBps). The average data transfer rate is 22.5X (3375 KBps).

** The maximum CD-R writing speed is 8X (1X = 150 KBps).

†† The maximum CD-ROM reading speed is 32X.

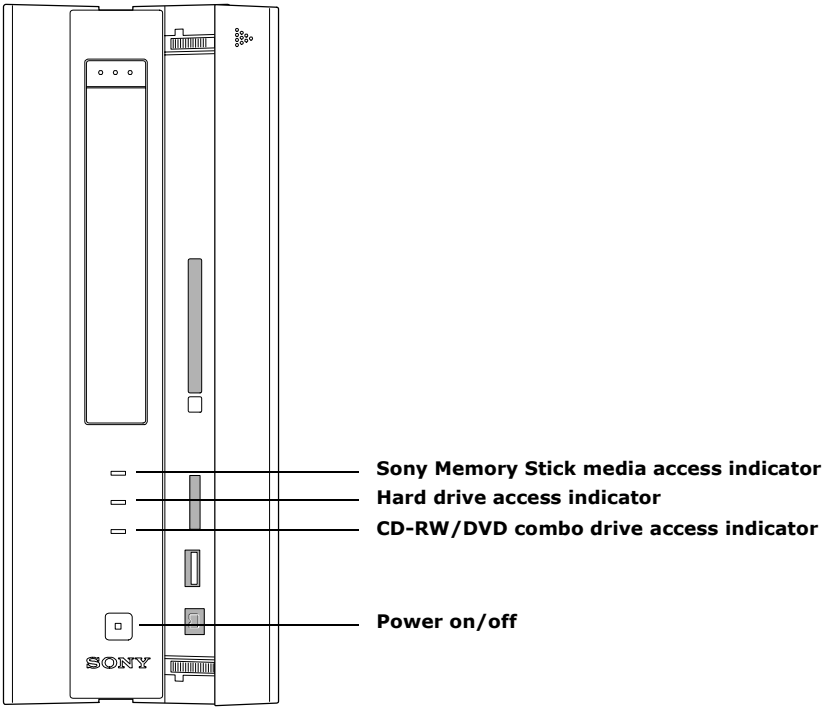
‡‡ The maximum DVD-ROM reading speed is 8X.

Buttons and Switches



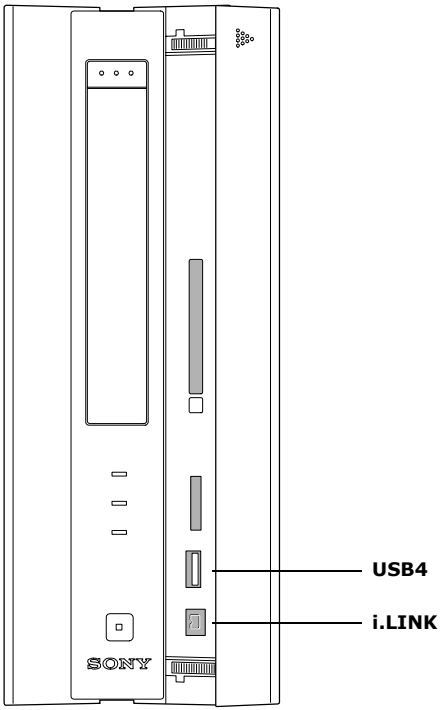
Button or switch	Description
Power/Stand by switch	Turns system power on and off.
CD-RW/DVD combo drive disc eject button	Automatically opens the CD-RW/DVD combo drive tray.
PC card eject button	Ejects a PCMCIA card.

Indicators



Indicator	Description
Power/Stand by indicator	Stand by (amber) indicates the computer is in Stand by mode. On (green) indicates the computer is out of Stand by mode, ready to use. Off (no color) indicates the computer is turned off.
Sony Memory Stick media access indicator	On (amber) indicates Memory Stick media activity.
Hard disk drive access indicator	On (amber) indicates hard disk drive activity.
CD-RW/DVD combo drive access indicator	On (amber) indicates optical disc activity.

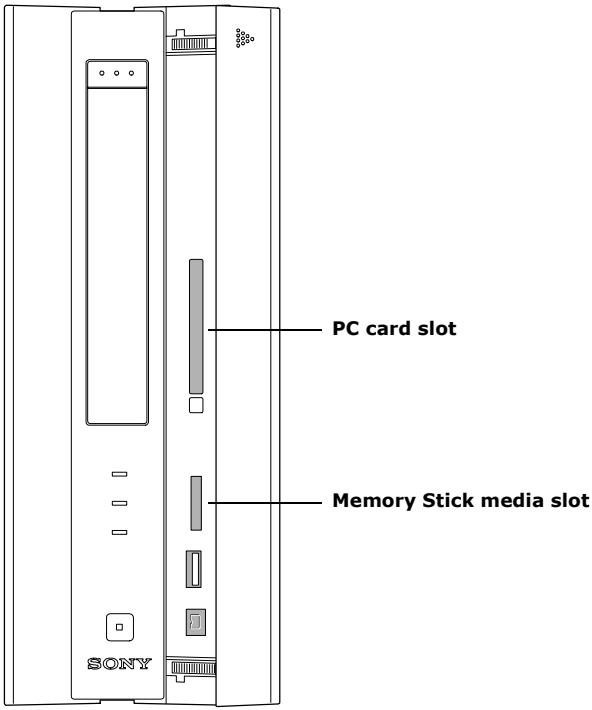
Connectors



Connector	Description
i.LINK® (IEEE1394)*	Connects to digital devices that have a 4-pin i.LINK connector.
USB4	Connects to USB devices.

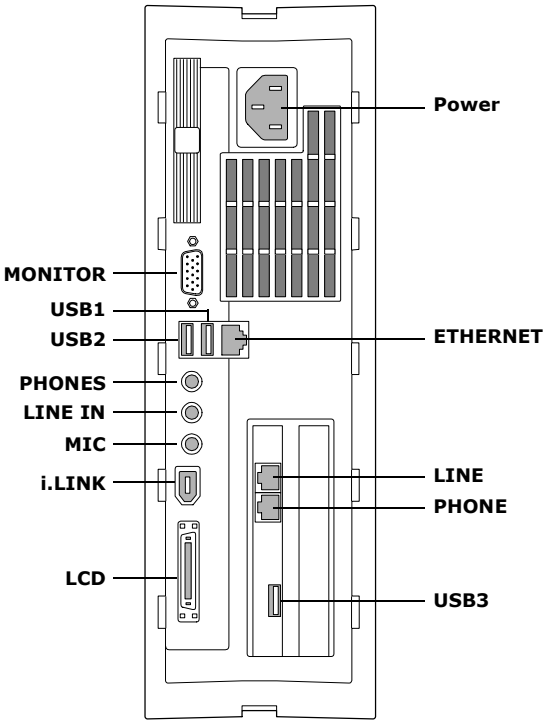
* To connect to a 6-pin i.LINK device, use the i.LINK connector on the back of the system. A 6-pin i.LINK connector can supply power from the computer to the device if the device also has a 6-pin i.LINK connector. A 4-pin i.LINK connector cannot supply power to the device.

Slots



Slot	Description
PC card slot	Accommodates one Type I or Type II PCMCIA card.
Memory Stick® media slot	Accommodates Memory Stick media.

Rear View



Connector	Description
Power	AC input power.
ETHERNET	Connects to RJ-45 Ethernet connector.
LINE	Connects to phone cable from wall jack.
PHONE	Connects to telephone.
USB3	Connects to USB devices.
MONITOR	Connects to VGA monitor (optional).
USB1, USB2	Connects to USB devices.
PHONES	Connects to headphones.
LINE IN	Connects to output connector on audio device.
MIC	Connects to microphone connector on audio device.

Connector	Description
i.LINK (IEEE1394)*	Connects to digital device that has a 4-pin or 6-pin i.LINK connector.
LCD	Connects to Sony Pen Tablet or Sony LCD display. Note: Do not connect any other display to this port.

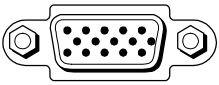
* To connect to a 6-pin i.LINK device, use the i.LINK connector on the back of the system. A 6-pin i.LINK connector can supply power from the computer to the device if the device also has a 6-pin i.LINK connector. A 4-pin i.LINK connector cannot supply power to the device.

I/O Connectors

The following section identifies the various I/O connectors.

MONITOR Connector

The MONITOR connector is a standard 15-pin female high-density VGA-type connector and is located on the rear panel.



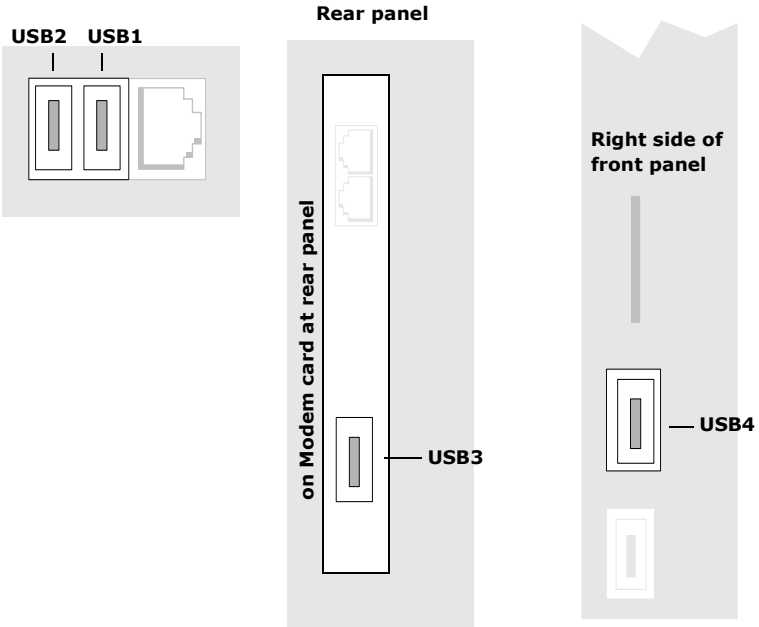
USB Connectors

A total of five USB connectors are available.

Three USB connectors (USB1, USB2, and USB3) are accessible from the rear panel. USB1 and USB2 are located next to the Ethernet connector, and USB3 is located on the Fax/Modem plug-in card.

The fourth USB connector (USB4) is located on the front panel between the i.LINK connector and the Sony Memory Stick media slot.

The fifth USB connector (USB5) is located on the Sony Pen Tablet or LCD display on the right side of the base next to the Mouse port.



PHONE, LINE IN, and MIC Connectors

The PHONES, LINE IN, and MIC jacks are physically identical, but have different connections. They are standard 3.5 mm stereo mini-jacks and are located on the rear panel.

Connector	Description
PHONES	1.0 Vrms output (typical) at 31 mW (32 ohm) output (max).
LINE IN	2.0 Vrms input (max), 50 Kohm impedance.
MIC	Electret condenser microphone input.

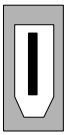
i.LINK (IEEE1394) Connector

The 6-pin i.LINK (IEEE1394) connector on the rear panel can supply power from the computer to a device if the device also has a 6-pin i.LINK connector. The connector supplies 10 V to 12 V. The total power supplied by the 6-pin i.LINK connector cannot exceed 6 watts.

✍ i.LINK is a trademark of Sony used only to designate that a product contains an IEEE1394 connection. The i.LINK connection may vary, depending on the software applications, operating system and compatible i.LINK devices. All products with an i.LINK connection may not communicate with each other.

✍ Refer to the documentation that came with your compatible i.LINK device for information on operating conditions and proper connections. Before connecting compatible i.LINK PC peripherals to your system, such as an optical disc drive or a hard disk drive, confirm their operating system compatibility and required operating conditions.

6-pin i.LINK (IEEE1394)



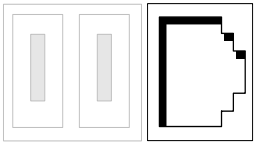
On rear panel

4-pin i.LINK (IEEE1394)

On front panel

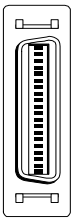
Ethernet Connector

The Ethernet connector on the rear panel connects to a 10Base-T/100Base-TX Fast Ethernet network via an RJ-45 connector.



LCD Connector

The LCD connector is a 32-pin female MDR-type connector and is located on the rear panel.

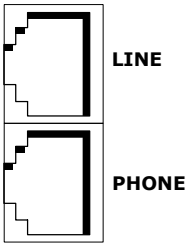


! **This connector is only for the Sony Pen Tablet or the Sony LCD display. Do not connect any other display to this port.**

LINE and PHONE Connectors

The LINE and PHONE jacks are physically identical and have identical connections. They are standard RJ-11 female phone jacks. However, the LINE jack is for connecting to a telephone line that comes from the wall jack, and the PHONE jack is for connecting the computer to a telephone. These jacks are located on the Modem plug-in card.

These connectors are located on the Modem plug-in card and are accessible from the rear panel.



✍ Accidentally plugging a phone line from the wall into the modem's PHONE jack, and a telephone into the LINE jack, will not damage the modem card or telephone equipment. However, the modem will not work correctly.

Chapter 2
Configuring Your System

This chapter contains information on configuring your system. Configuring your system can consist of the following:

- Making changes to the CMOS settings
- Making changes to the display's power management settings
- Changing the system board jumper position

Accessing the CMOS Setup Utility

You must access the CMOS Setup Utility to make changes to the CMOS settings (see "CMOS Setup Options" on page 65 for information on CMOS settings).

! **Save and close all open files; exit all applications before rebooting the system.**

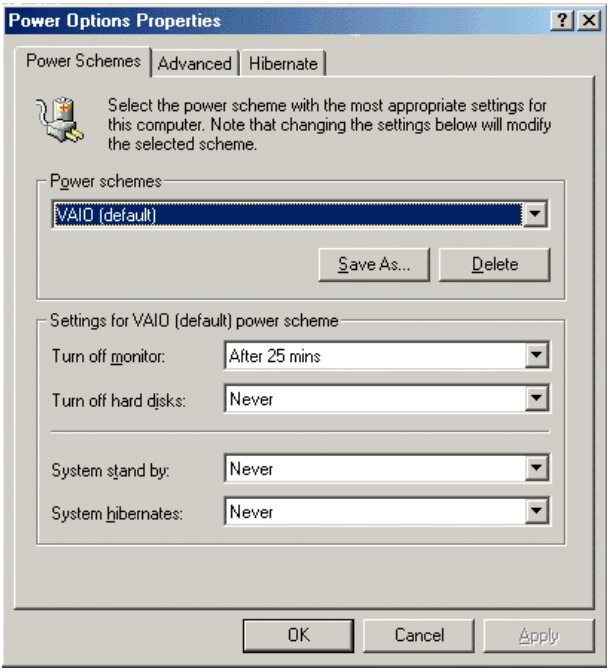
1. Reboot the system.
2. Press F2 when the Sony screen appears.
3. Use the left and right arrow keys to select an item from the main menu. Use the up and down arrow keys to select an item within the screen.
4. Press Enter to display a submenu of options for an item.
5. Use the up and down arrow keys to select an option within a submenu.
6. Press Enter to apply the new setting or Esc to cancel the submenu.
7. Press ESC to return to the main menu.
8. Select F10 when done, then follow the prompts, or choose an option from the Exit menu.

Changing the Display's Power Management Settings

A display that has power management capability is designed to operate on reduced power or shut itself off after the system has been idle for a specified period of time.

1 From the Start menu, point to Settings, Control Panel, then click Power Options.

The Power Options Properties dialog box opens, with the Power Schemes tab displayed.



2 Select the power scheme that is most appropriate for the way you use your computer.

To change a power scheme, change the settings for Turn off monitor, Turn off hard disks, System stand by, and System hibernates.

The Turn off monitor option allows you to specify the period of inactivity (in minutes) that you want to elapse before your monitor turns off when your computer is running on AC power. The display reactivates when you move the mouse or press a key.

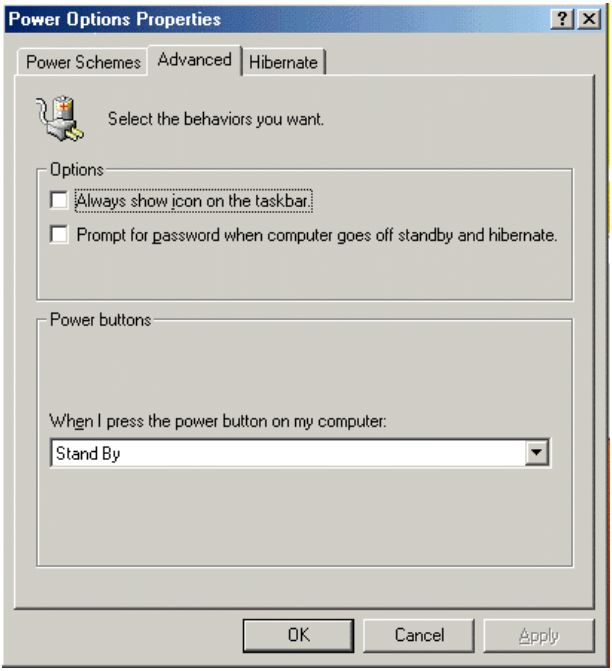
The Turn off hard disks option allows you to specify the period of inactivity (in minutes) that you want to elapse before your hard disks turn off when your computer is running on AC power.

The System stand by option allows you to specify the period of inactivity (in minutes) that you want to elapse before your computer goes on Stand by when your computer is running on AC power. Power is reactivated when you click the left mouse button or press the spacebar on the keyboard.

The System hibernates option allows you to specify the period of inactivity (in minutes) before your computer goes into the Hibernate mode. Power is reactivated when you push the power button.

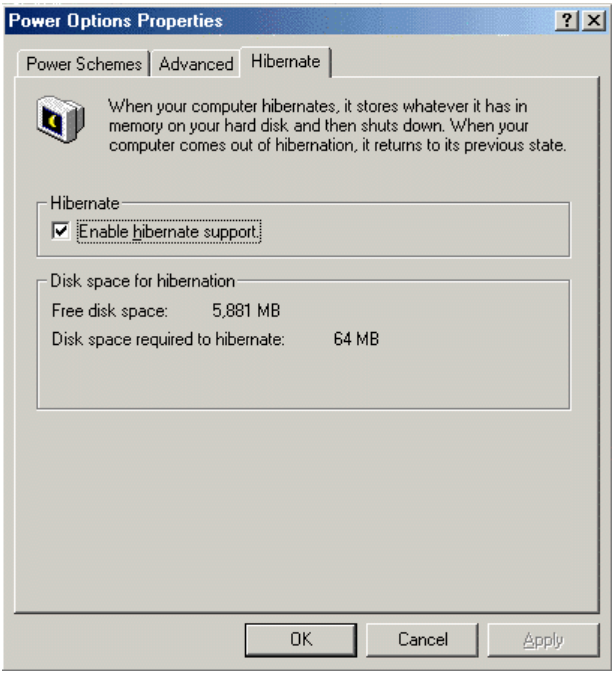
3 To save a new power scheme, first modify the settings, click Save As, type a descriptive name, and then click OK.

4 Click the Advanced tab.



5 Select the desired settings.

6 Click the Hibernate tab.


Power Options Properties
Power Schemes
Advanced
Hibernate
When your computer hibernates, it stores whatever it has in memory on your hard disk and then shuts down. When your computer comes out of hibernation, it returns to its previous state.
Hibernate
Enable hibernate support
Disk space for hibernation
Free disk space: 5,881 MB
Disk space required to hibernate: 64 MB
OK
Cancel
Apply

7 Select the desired settings, and then click OK.

Configuring the System Board

✍ The configuration should never need changing unless otherwise directed by a technical support or service technician.

! **Before opening the system unit, save and close all open files, exit all open applications, turn off the power to all attached peripheral devices, shut down the computer, and unplug the power cord.**

There are two configuration switches on the system board:

- CMOS Clear switch
- Onboard VGA Interrupt (AGP_INT) switch

When the CMOS Clear switch is in the Normal position, it provides normal access to the BIOS Setup Utility.

The Central Processing Unit (CPU) input clock is forced to remain at 100 MHz (fast mode), and the Basic Input/Output System (BIOS) uses the User CMOS settings (as opposed to the System CMOS settings).

The CMOS and NVRAM settings are only cleared if the checksum test returns false. Access to specific setup fields is controlled by a supervisor password or user password.

When the CMOS Clear switch is in the Clear position, the password that is stored in CMOS is cleared. No other parameters are cleared. While the CMOS switch is in the Clear position, the system will not boot up at all. To clear your password, after setting the switch to the Clear position, wait 2-3 seconds, and then set the switch to the Normal position.

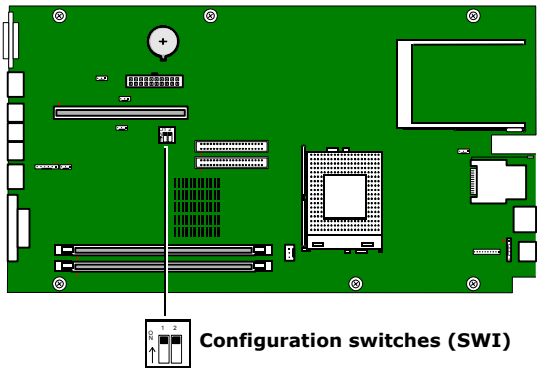
If you install a VGA PCI add-in card, you can use the AGP_INT switch to enable or disable the onboard VGA controller.

To enable or disable the CMOS Clear or onboard VGA Interrupt, perform the following steps:

! **Do not change any configuration switch unless directed by an authorized Sony technician.**

1 Remove the system cover (see "Removing the System Cover" on page 24).

2 Set the switches according to the table shown in the diagram (see also "Configuration Switches" on page 61).



Configuration switches (SWI)

Switch #	Name	On	Off
1	CMOS	Clear password	Normal
2	AGP_INT	Enable	Disable

Chapter 3
Removing, Installing, and Replacing Components

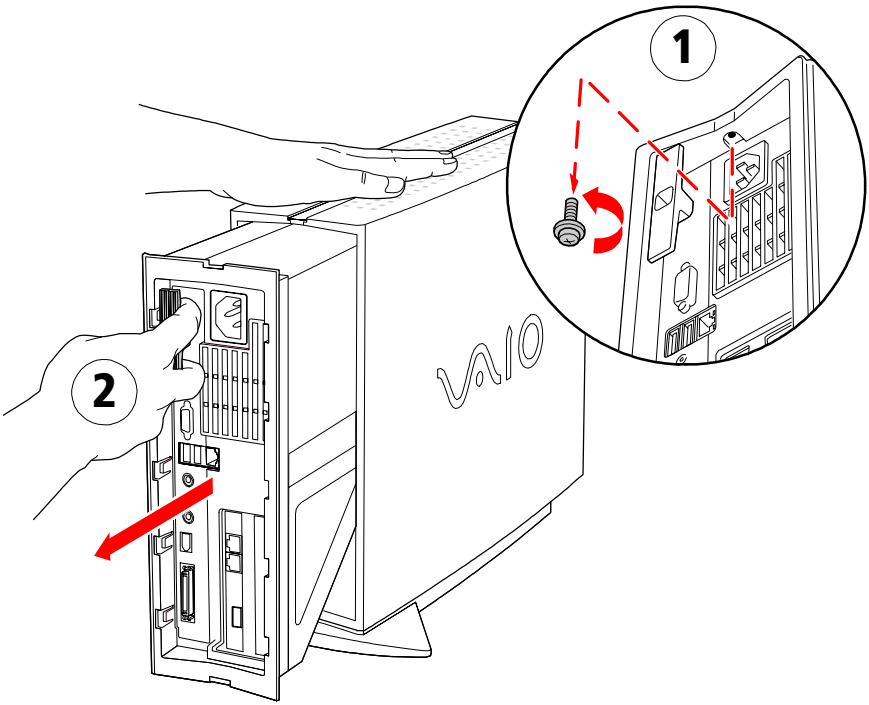
This chapter describes removing, installing, and replacing major components for upgrading, reconfiguring, and troubleshooting the components.

! **Before opening the system unit, save and close all open files, exit all open applications, turn off the power to all attached peripheral devices, shut down the computer, and unplug the power cord.**

Removing the System Cover

You must remove the system cover to access the system board, add-in cards, power supply, battery, and internal drives.

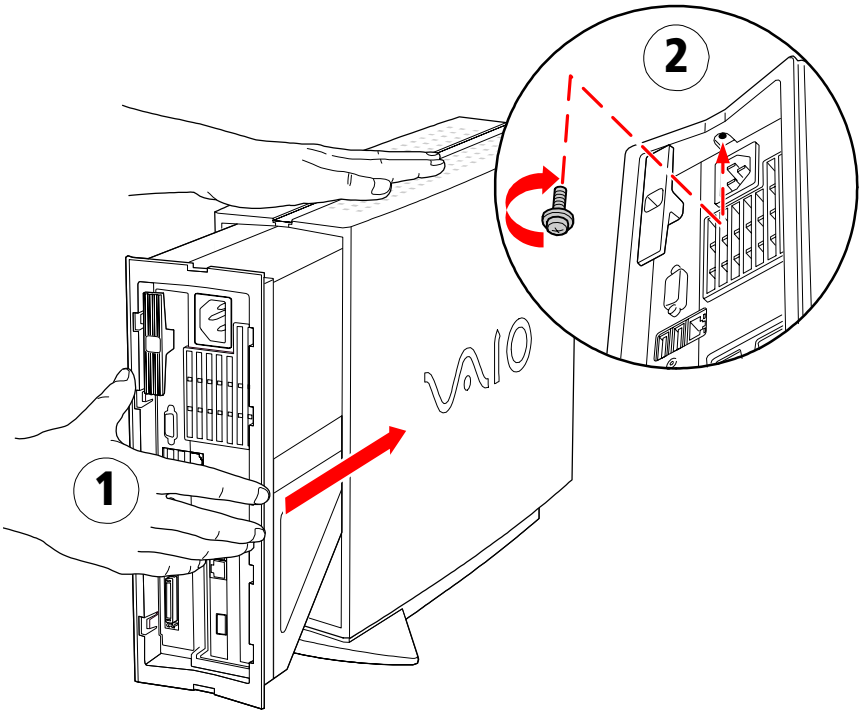
1. Remove the screw that secures the panel to the chassis (see item 1 in diagram), and set it aside for future use.
2. From the rear of the unit, hold down the system cover while you pull on the handle located at the rear panel (see item 2 in diagram).
3. Slide the system chassis out.



Replacing the System Cover

1 Insert the front of the chassis into the opening at the rear of the system cover, then slide the chassis in until it is flush with the front and rear (see item 1 in diagram).

2 Replace the screw that secures the cover to the chassis (see item 2 in diagram).



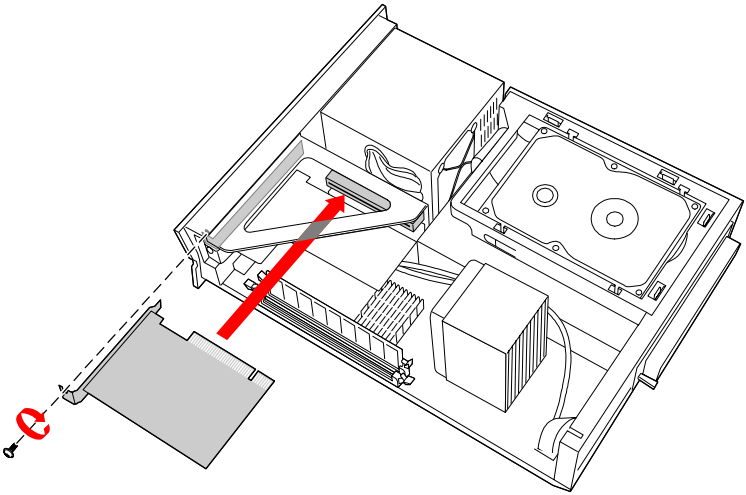
Installing an Add-In Card

! **Before opening the system unit, save and close all open files, exit all open applications, turn off the power to all attached peripheral devices, shut down the computer, and unplug the power cord.**

1 Remove the system cover (see "Removing the System Cover" on page 24).

2 Remove the slot cover adjacent to the selected slot connector on the system board (see "Removing a Slot Cover" on page 42).

3 Insert the add-in card into the PCI slot connector. Use a gentle rocking motion, pushing in until the card is fully seated.



✍ Align the card's bracket so that the bottom of the bracket fits into the slot at the bottom of the chassis. Check that the top of the bracket fits snugly against the chassis lip after the card is fully inserted.

4 Attach any necessary cables to the card (see the instructions that came with the add-in card).

5 Replace the system cover (see "Replacing the System Cover" on page 25).

6 Turn on the computer and follow any instructions that came with the add-in card.

Removing an Add-in Card

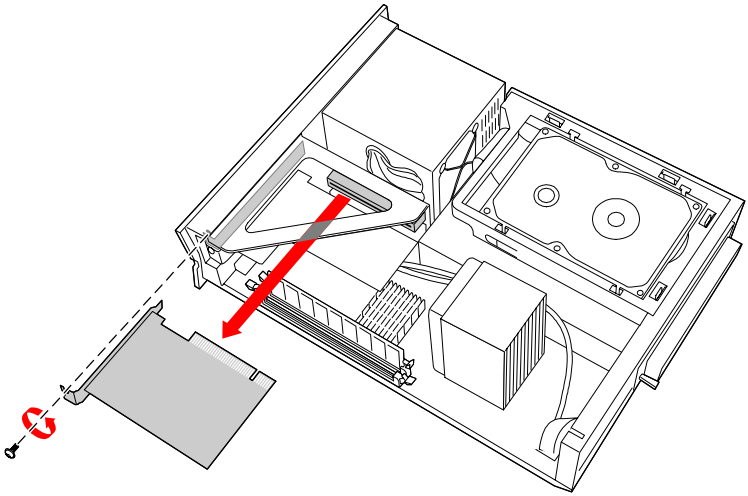
! **Before opening the system unit, save and close all open files, exit all open applications, turn off the power to all attached peripheral devices, shut down the computer, and unplug the power cord.**

1 Remove the system cover (see "Removing the System Cover" on page 24).

2 Disconnect any cables attached to the add-in card.

3 Remove the screw that secures the add-in card to the chassis, and set it aside for future use.

4 Remove the add-in card from the PCI slot connector, and store the card in an anti-static wrapper for future use.



✍ Grasp the card with one hand on each end, and gently pull up as you rock the card from side to side.

! **Hold the add-in card by its edges and do not touch any components or connector contacts on the card. Static electricity in your body may damage sensitive components on the card. As a precaution, touch any exposed metal part on the metal chassis (preferably the metal part on the power supply) before handling an add-in card to discharge any static electricity in your body.**

5 If you do not replace the card or install another add-in card, install a slot cover over the vacant slot at the rear of the chassis (see "Covering an Open I/O Slot" on page 43).

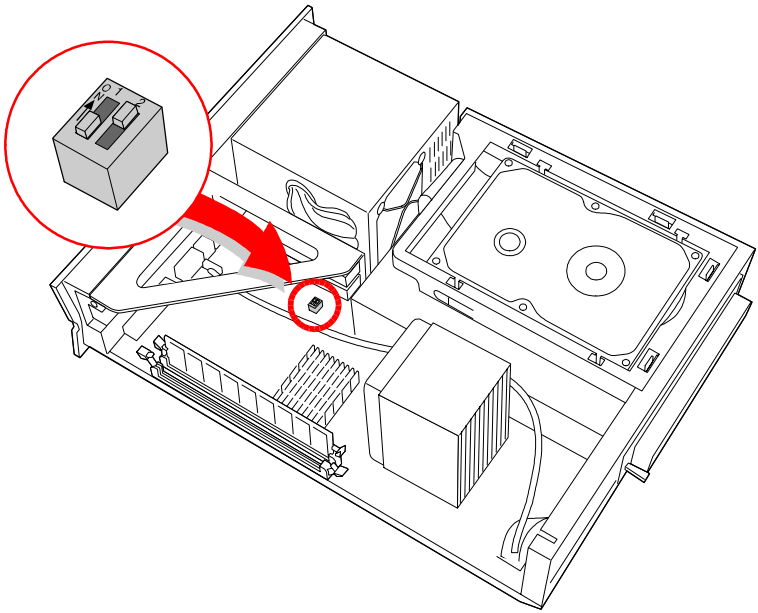
6 Replace the system cover (see "Replacing the System Cover" on page 25).

Setting the Configuration Switches

! **Before opening the system unit, save and close all open files, exit all open applications, turn off the power to all attached peripheral devices, shut down the computer, and unplug the power cord.**

1 Remove any add-in cards (see "Removing an Add-in Card" on page 27).

2 Set the switches as needed (see "Configuring the System Board" on page 20).



3 Replace any add-in cards removed in step 1 (see "Installing an Add-In Card" on page 26).

Replacing the Lithium Battery

You may need to replace the lithium battery if your computer consistently loses the date or time settings after turning it off. The lithium battery has a typical life of three years, after which the battery may be too weak to power the CMOS memory.

! **Sony recommends that you use an authorized service dealer to replace the lithium battery. However, if you wish to replace the battery yourself, read the following cautions and procedure.**

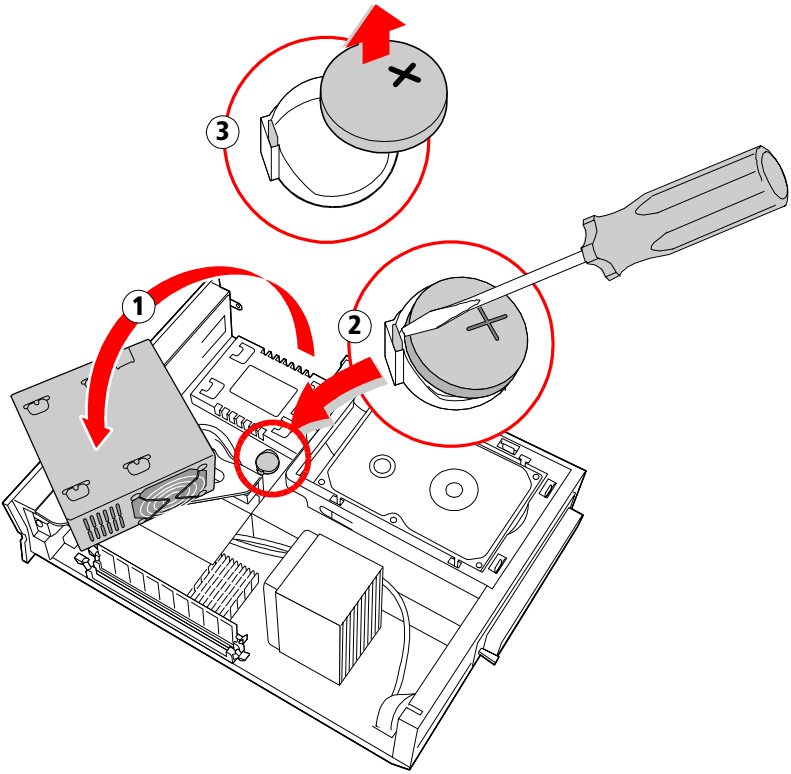
When you remove the lithium battery, all values stored in the CMOS memory (BIOS setup values and Plug and Play values) may be lost. Although the computer can hold the charge for a short time while replacing the battery, it is safer to assume that the settings will be lost. When the values are lost, the BIOS values revert to their factory-default settings (see "Accessing the CMOS Setup Utility" on page 16).

Do not handle damaged or leaking batteries.

The lithium battery may explode if mistreated. Do not disassemble it or dispose of it in fire.

1. Reboot your computer by selecting Shut Down... from the Start menu, and then selecting Restart the computer.
2. If the error message "Error: Check date and time settings" appears during the reboot sequence, press F3, then press F2 during the reboot process to access the BIOS Setup Utility. If the error message does not appear, you do not need to replace the battery at this time, and you can skip all remaining steps.
3. Compare all the BIOS options to their default settings. See "CMOS Setup Options" on page 65 to locate the BIOS default settings. Make a list of all the BIOS options that are different from their default values. You will refer to this list when you restore the BIOS settings later.
4. Press ESC, then select Exit from the main menu using the right arrow key. Exit Discarding Changes, the first item in the list, is automatically selected.
5. Press Enter, type N when prompted to save, then press Enter to exit the BIOS Setup Utility.
6. Turn off the computer, and unplug the power cord.
7. Remove the system cover (see "Removing the System Cover" on page 24).
8. Remove the power supply (see 1 in diagram and "Removing the Power Supply" on page 33).

9 Use a screwdriver or similar tool to push the tab against the battery holder (see 2 in diagram). One side of the battery pops up.



10 Remove the battery (see 3 in diagram) and dispose according to the instructions that came with the new battery.

11 Insert the new battery into the battery holder, with the plus (+) side up, and press down until the battery snaps into position.

> ✍ The Sony CR2032 battery is recommended. Using a type of battery other than a CR2032 may present a risk of fire or explosion.

12 Replace the power supply (see "Replacing the Power Supply" on page 34).

13 Replace the system cover (see "Replacing the System Cover" on page 25).

14 Reconnect the power cord, and turn on the computer.

15 If the error message "Error: Check date and time settings." appears during the reboot sequence, press DEL to access the CMOS Setup Utility. If no

error message displays, the computer's CMOS settings were retained during the battery replacement and you can skip the remaining steps.

16 Refer to the list you made in step 3, and restore any non-default CMOS settings. See "CMOS Setup Options" on page 65 to locate the BIOS default settings.

17 Press F10, then follow the on-screen prompt to save and exit.

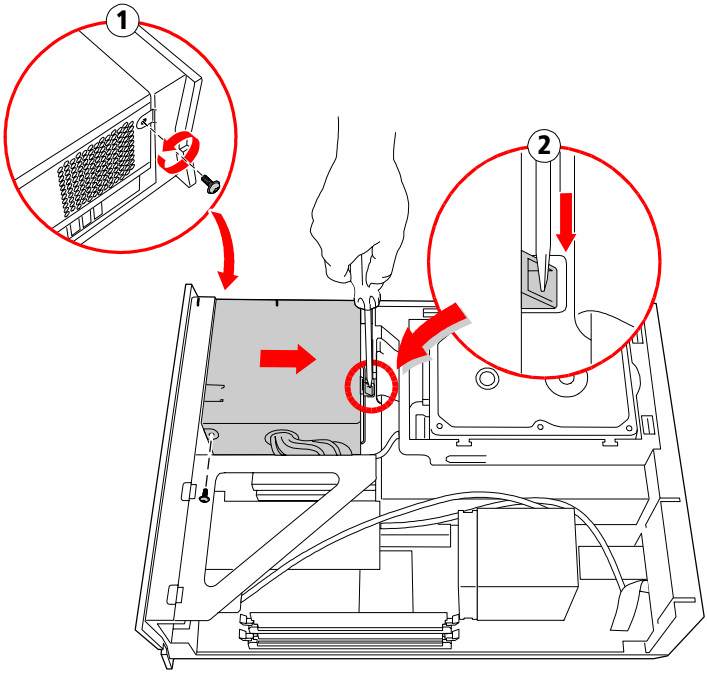
The computer's CMOS settings are now restored.

Removing the Power Supply

You must remove the power supply to replace the CMOS battery.

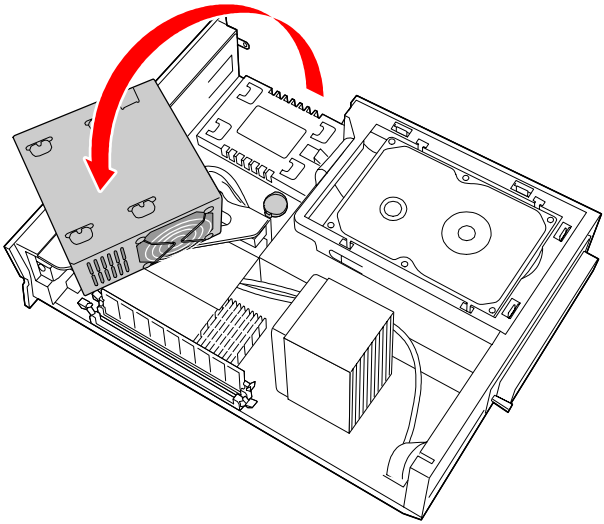
! **Before opening the system unit, save and close all open files, exit all open applications, turn off the power to all attached peripheral devices, shut down the computer, and unplug the power cord.**

1 Remove the screw that secures the power supply to the chassis (see 1 in diagram), and set it aside for future use.



2 Press down on the plastic lever at the bottom of the power supply (see 2 in diagram) to release the power supply.

3 Lift the power supply up and out, and rest it upside down on top of the PCI card holder.



Replacing the Power Supply

1 Lower the power supply down into position, and press down until the power supply latches to the chassis.

2 Replace the screw that secures the power supply to the chassis.

Installing System Memory

! **Before opening the system unit, save and close all open files, exit all open applications, turn off the power to all attached peripheral devices, shut down the computer, and unplug the power cord.**

1 If necessary, remove the memory module you wish to replace (see "Removing a Memory Module" on page 37).

2 Remove the new memory module(s) from its anti-static package. Hold the memory module only by its edges to prevent static-electricity damage.

3 Choose the size and configuration of the memory module as shown in the following table. Memory modules can vary in size and speed between sockets. The minimum memory size is 8 MB; the maximum memory size is 512 MB. The BIOS automatically detects the type, size, and speed of the memory modules.

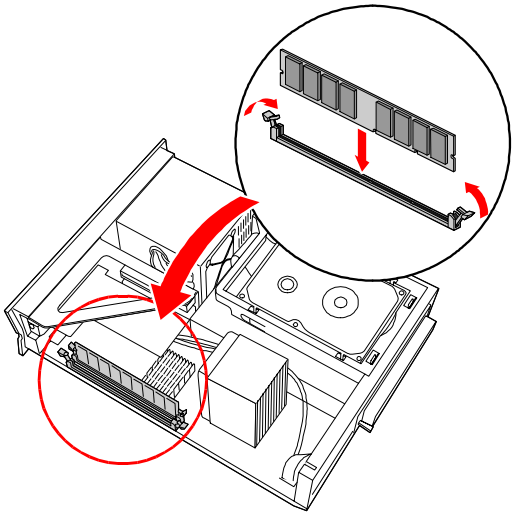
Memory module configurations (MB)

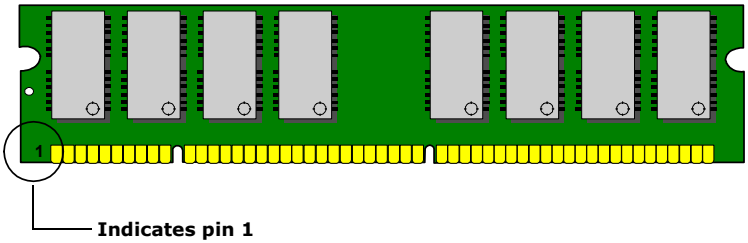
DIMM1	*DIMM2*
0, 8, 16, 32, 64, 128, 256	0, 8, 16, 32, 64, 128, 256

! **Touch any exposed metal part of the chassis to discharge static electricity in your body before handling a memory module.**

✍ Use only 3.3 V 64-bit, PC-133 MHz SDRAM DIMM modules.

4 Align the module over the appropriate socket, and note the location of pin 1 on the module and pin 1 on the socket.





5 Carefully but firmly insert the edge of the module into the socket.

6 Press down firmly and evenly at both corners until the module is fully seated.

When the module is fully seated, the latches on each side are straight up and locked into the slot on each side of the module. If the latches are not completely straight upright, continue to press down on each side of the module until the latches lock into place.

7 Replace the system cover (see "Replacing the System Cover" on page 25).

Your computer automatically recognizes the extra memory and configures itself accordingly when you turn it on. No further action is required.

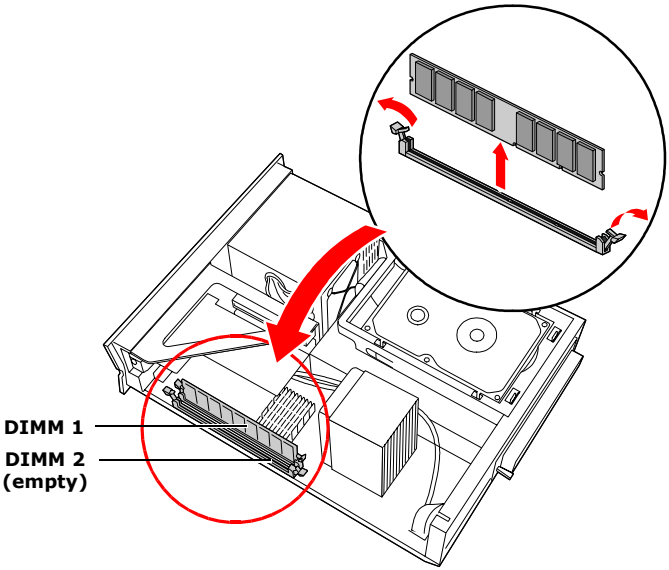
Removing a Memory Module

You may need to remove a memory module if you change the memory configuration or replace a bad module.

! **Before opening the system unit, save and close all open files, exit all open applications, turn off the power to all attached peripheral devices, shut down the computer, and unplug the power cord.**

1 Remove the system cover (see "Removing the System Cover" on page 24).

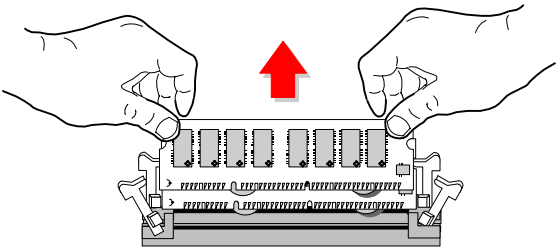
2 Locate the memory module you wish to remove.



✍ If the memory module you wish to remove is DIMM #2, skip steps 3 to 5. Otherwise, continue using the next step.

3 Push out the latches on each side of the memory module to eject the module from its socket.

4 Lift the memory module out by grasping it by its edges. Store the module in a static-free bag.



! **Touch any exposed metal part of the chassis to discharge static electricity in your body before handling the memory module.**

5 Replace the system cover (see "Replacing the System Cover" on page 25).

Replacing the Hard Drive

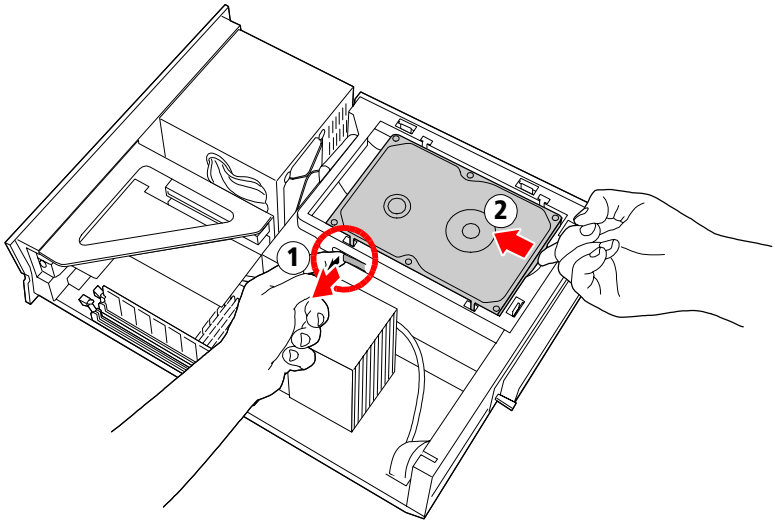
! **Before opening the system unit, save and close all open files, exit all open applications, turn off the power to all attached peripheral devices, shut down the computer, and unplug the power cord.**

✍ Your system can support ATA-33 or ATA-66 hard disk drives.

1 Back up any files on your hard drive that you want to preserve before you replace the drive.

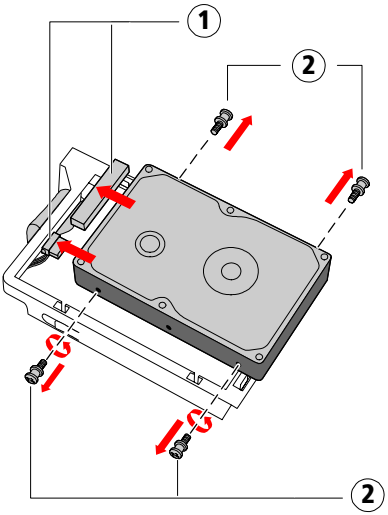
2 Remove the system cover (see "Removing the System Cover" on page 24).

3 While pulling out on the tab (see 1 in diagram), push the hard drive towards the left inside the blue plastic drive carrier to release the drive.



4 Lift up on the left side of the drive, and gently wiggle the drive up and out.

5 Unplug the ribbon cable and power supply cable (see 1 in diagram) from the hard drive.



6 Remove the four pins (see 2 in diagram) from the hard drive.

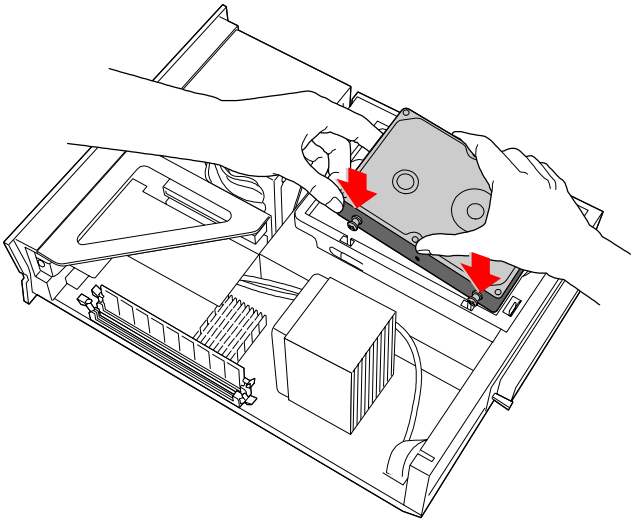
7 Insert the four pins in the new hard drive in the same position they were in the old hard drive.

8 Set the jumpers on the new hard drive to be the Primary Master IDE drive (refer to the instructions that came with your new hard drive).

9 Rest the hard drive upside down on a flat surface, with the connectors facing left.

10 Reconnect the ribbon cable and power supply cable to the new hard drive.

11 Align all four pins on the hard drive with the four slots in the drive carrier, and gently press down until the drive is firmly into position.

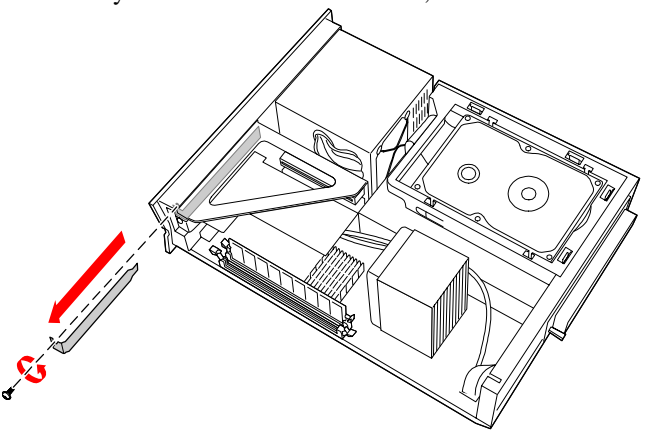


12 Replace the system cover (see "Replacing the System Cover" on page 25).

Removing a Slot Cover

You remove a slot cover when you install an add-in card that occupies a previously-empty slot.

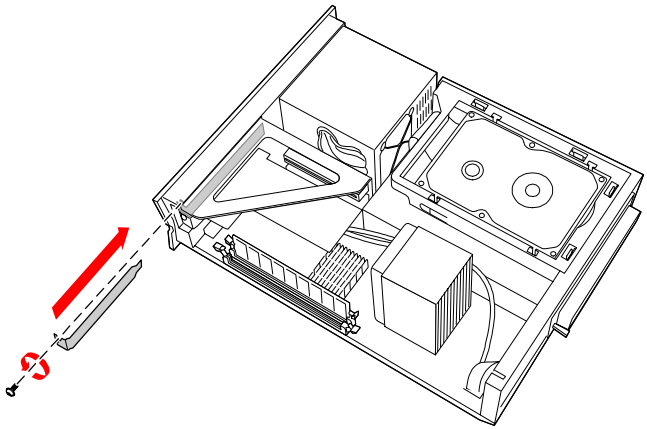
1. Lay the system on its side with the open side facing up and the slot covers facing you.
2. Locate the slot of the cover you want to remove.
3. Remove the screw from the slot cover, and set it aside for future use.
4. Carefully remove the loose slot cover, and set it aside for future use.



Covering an Open I/O Slot

Slot covers prevent air from escaping through the empty hole. If air escapes, the components inside the computer cannot be properly cooled. This may damage some components, especially the main processor (which generates the most heat).

1 Fit the bottom end of the slot cover (removed earlier) between the chassis and system board.

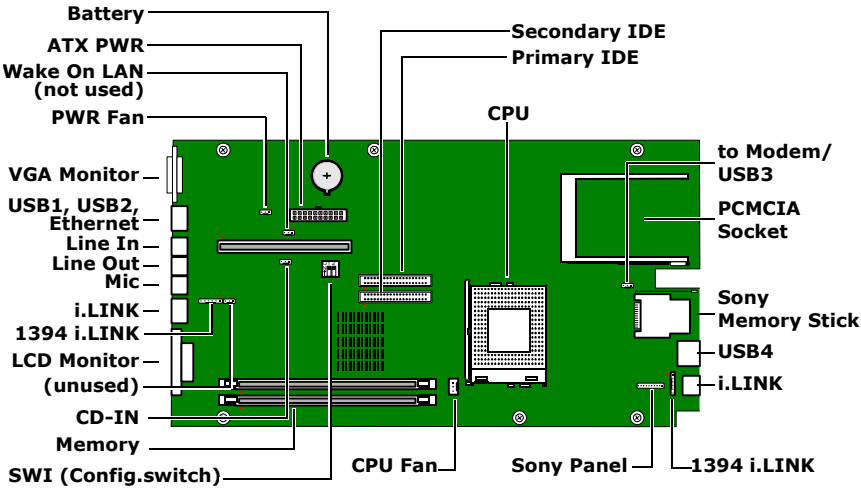


2 Push the slot cover in until it rests firmly on the lip in the chassis. All add-in card brackets and slot covers rest on this lip.

3 Replace the screw (removed earlier) to secure the I/O slot cover.

Chapter 4
System Board

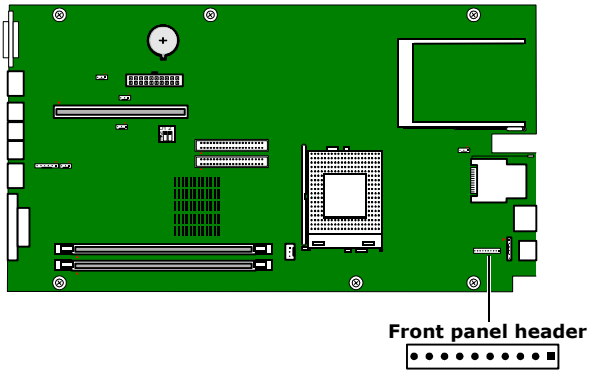
This chapter identifies each component on the system board and provides a detailed description of each connector and jumper on the system board.



Connectors

Front Panel Header

The front panel header is a 10-pin header that provides connections to various front panel functions.



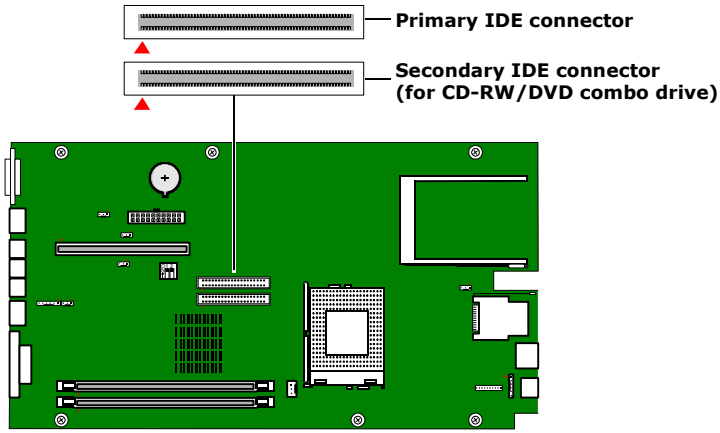
Pin #	Name	Description
1	+5	+5V from power supply.
2	LED (CD-RW)	Connects to LED on CD-RW.
3	LED (FDD)	Connects to LED on floppy disk drive.
4	LED (HDD)	Connects to LED on IDE hard disk drive.
5	LED (MODEM)	Connects to LED on modem card.
6	Reserved	Not used.
7	LED3	Connects to Stand by/Sleep (red) signal from power supply.
8	LED4	Connects to Power (green) anode signal from power supply.
9	POWER SW	Connects to power switch.
10	GND	Connects to signal ground.

IDE Connectors

There are two Integrated Drive Electronics (IDE) connectors: a Primary IDE and a Secondary IDE connector.

The Primary IDE connector is a 40-pin 2.54 mm pitch header-type connector for the 3.5-inch hard disk drive.

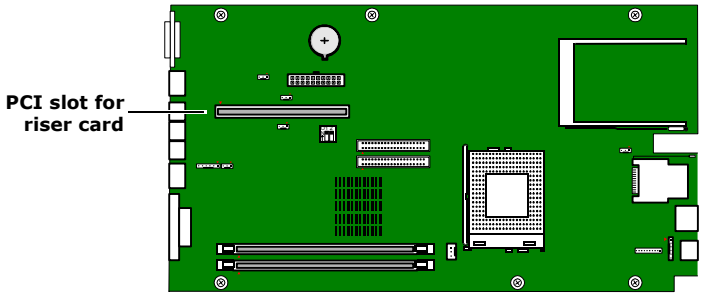
The Secondary IDE connector is a 40-pin 2.54 mm pitch header-type connector for the 5.25-inch CD-RW/DVD combo drive.

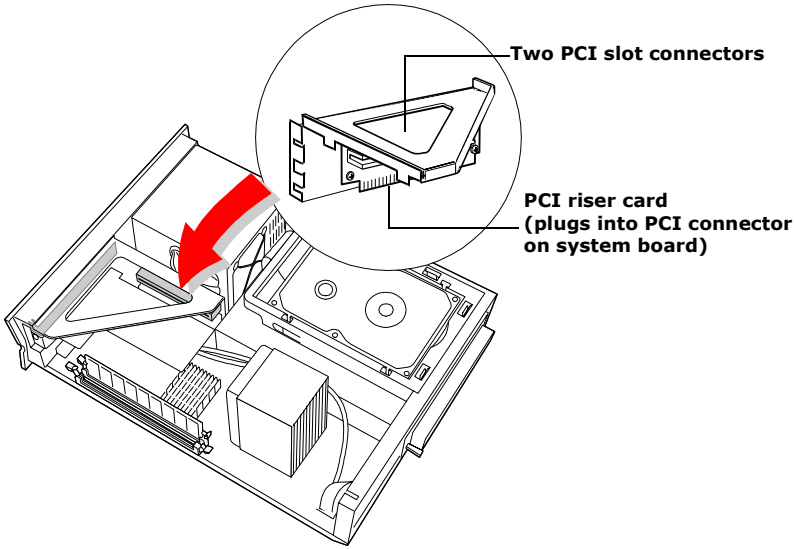


PCI Slot Connectors

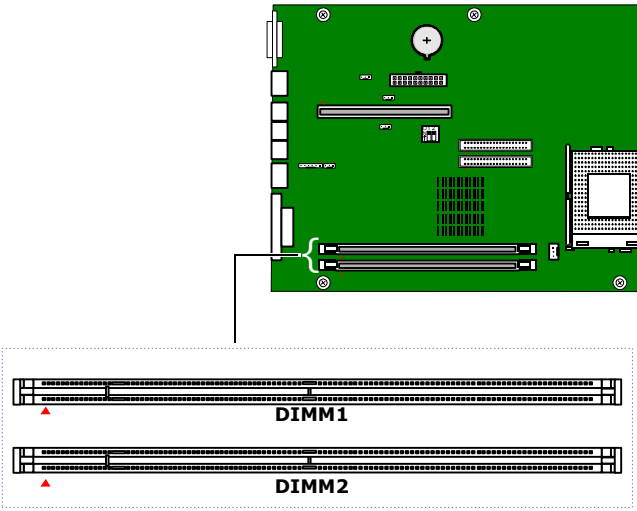
The system board contains one Peripheral Component Interconnect (PCI) riser slot connector for a PCI riser card. The PCI riser card in turn provides two PCI slot connectors for PCI add-in cards. One PCI slot connector is occupied by the fax/modem card (slot #2), which also contains a USB connector.

The PCI slots in the riser card support 32-bit 5 V and Universal (3.3/5 V) PCI add-in cards.

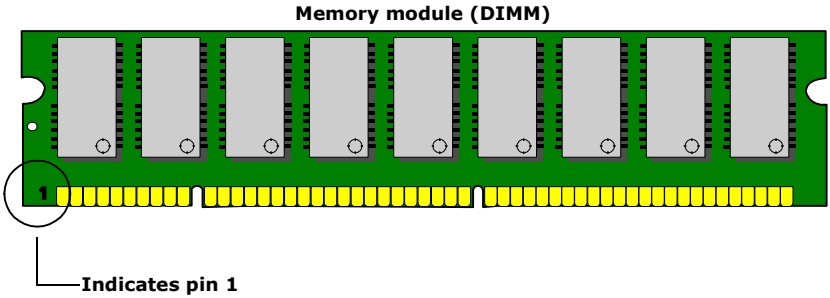




Memory Module (DIMM) Connectors

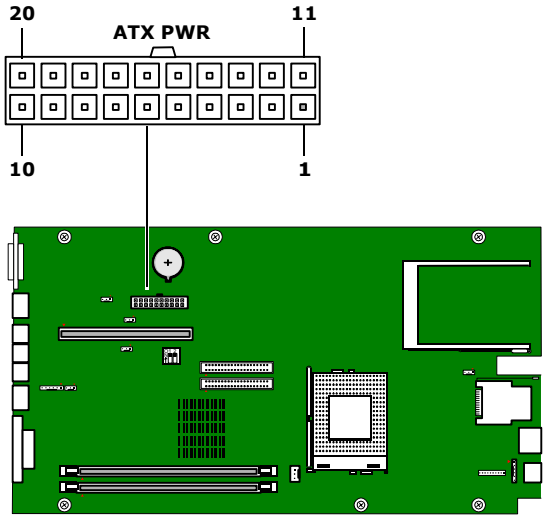


Both sides of each Dual Inline Memory Module (DIMM) look very similar. The side with pin 1 has a small "1" to the left of pin 1. Be sure to orient a DIMM correctly in the DIMM connector (a small triangle on the connector indicates pin 1).



Power (ATX PWR) Connector

The ATX PWR connector is a 20-pin Molex-type header connector that provides power to the system board.



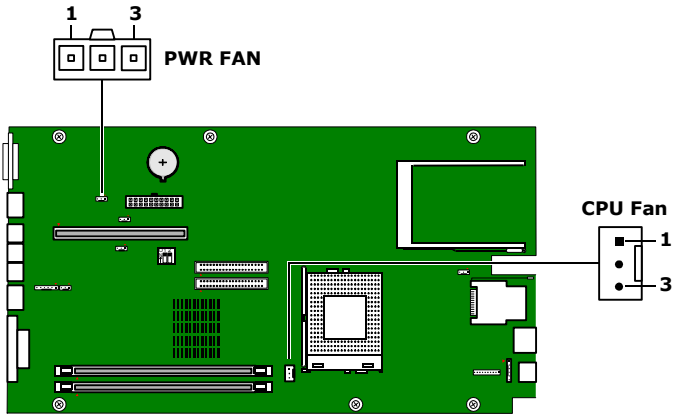
Power connector

Pin #	Name	Pin #	Name
1	+3.3 V	11	+3.3 V
2	+3.3 V	12	-12 V
3	GND	13	GND
4	+5 V	14	PS-ON# (power supply remote on/off control)
5	GND	15	GND
6	+5 V	16	GND
7	GND	17	GND
8	PWRGD (power good)	18	NC
9	+5 VSB	19	+5 V
10	+12 V	20	+5 V

Fan (CPU FAN, PWR FAN) Connectors

The CPU Fan connector is a 1 x 3-pin straight header connector that controls the CPU cooling fan.

The PWR FAN connector is a 2 x 3-pin connector that controls the power supply cooling fan. It connects to P3 from the power supply.



CPU Fan connector

Pin	*Signal Name*
1	GND
2	FAN_CTRL (+12 V)
3	FAN_SEN

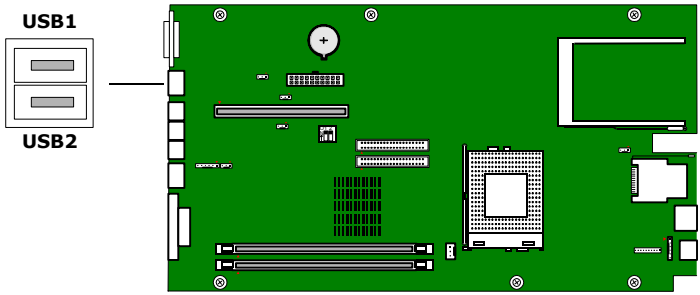
PWR FAN connector

Pin	*Signal Name*
1	Ground
2	Fan C*
3	3.3 V sense

* Power supply provides 12 V to this pin when system is in Power On mode (for fastest fan speed), and 6 V when system is in Suspend mode (to reduce fan noise).

USB Connectors

There are two USB ports (USB1 and USB2) on the system board that permit connection of USB peripheral devices directly to the system without having to use an external hub. If more USB devices are needed, connect an external hub to either USB port.



There is a USB port (USB3) on the Fax/Modem card (accessible from the rear panel), and a USB port (USB4) on the front panel. These connectors are identical to USB1 and USB2.

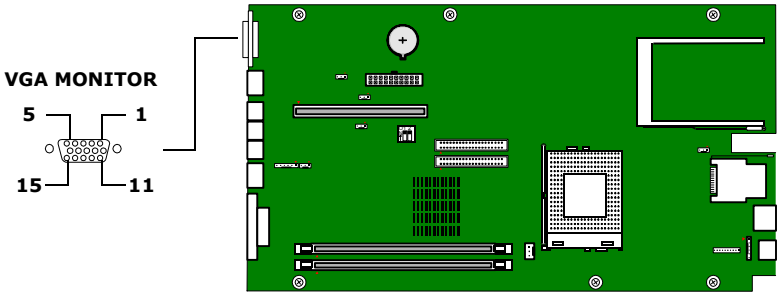
USB Connectors*

Pin	*Signal Name*
1	Power
2	USBPn#
3	USBPn
4	GND

* The n denotes the USB number (1, 2, 3, or 4).

VGA MONITOR Connector

The VGA MONITOR connector is a 15-pin high density D-sub female connector.

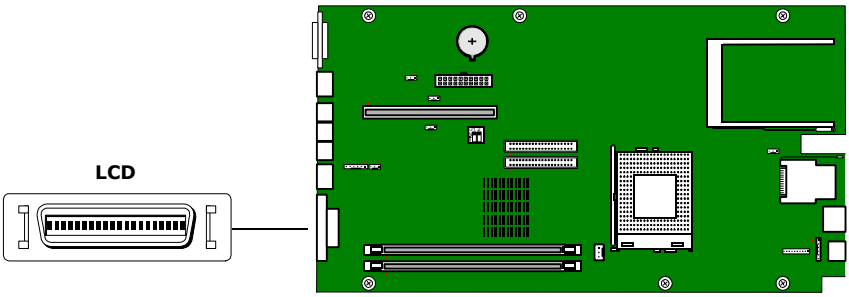


VGA MONITOR connector

Pin	Signal Name
1	RED
2	GREEN
3	BLUE
4	GND
5	DDC GND
6	RED GND
7	GREEN GND
8	BLUE GND
9	NC
10	GND
11	GND
12	SDA
13	HORIZONTAL SYNC
14	VERTICAL SYNC
15	SCL

LCD Connector

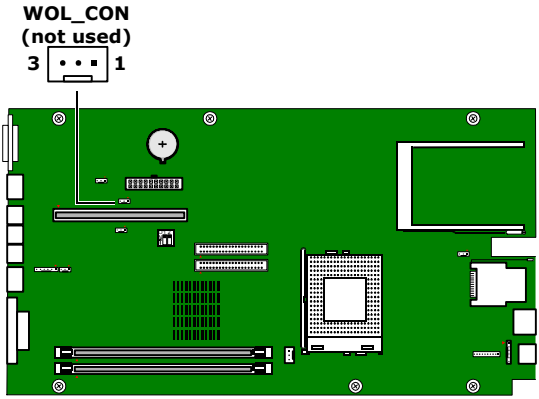
The LCD connector is a 32-pin MDR-type connector for the Sony Pen Tablet or the Sony LCD display.



! **This connector is only for the Sony Pen Tablet or the Sony LCD display. Do not connect any other display to this port.**

Wake On LAN (WOL_CON) Connector

The WOL_CON connector is a 3-pin header connector that provides the Wake On LAN function (not used).

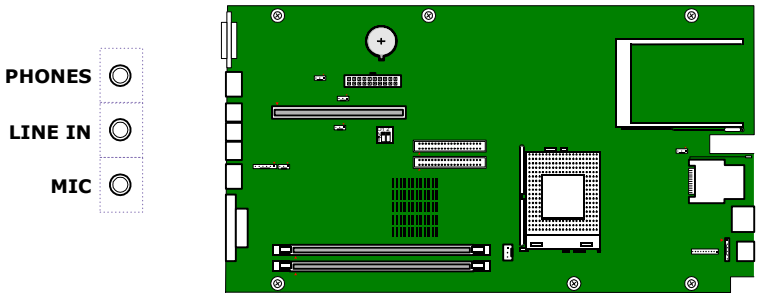


Wake On LAN connector

Pin	Signal
1	+5 V SB
2	GND
3	WOL signal

PHONES, LINE IN, and MIC Connectors

The PHONES jack is a stereo mini-jack (3.5 mm) that connects to headphones. The LINE IN jack is a stereo mini-jack (3.5 mm) that connects to a stereo audio device (not an audio source from a video device). Connect a stereo audio output jack to the LINE IN jack. The MIC jack is a stereo mini-jack (3.5 mm) that connects to a microphone.



PHONES jack

Pin	*Signal*
Sleeve	GND
Tip	Left out
Ring	Right out

LINE IN jack

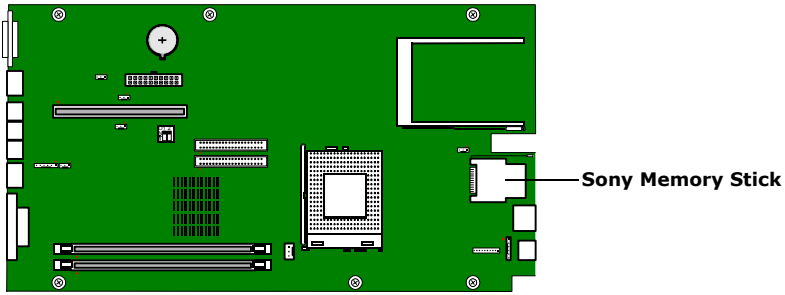
Pin	*Signal*
Sleeve	GND
Tip	Audio-Left In
Ring	Audio-Right In

MIC jack

Pin	*Signal*
Sleeve	GND
Tip	Microphone mono in
Ring	Electret bias voltage

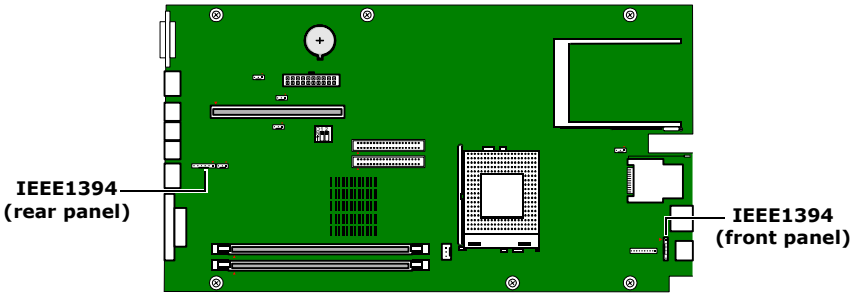
Sony Memory Stick Media Slot Connector

The Sony Memory Stick media slot connector is a 10-pin MCR 103-10S connector.



i.LINK Interface Header Connectors

The system board has two i.LINK (IEEE1394) interface header connectors. A cable connects each 6-pin header connector to the front panel to provide it with i.LINK interface functionality.



IEEE1394 interface header connector (rear panel)

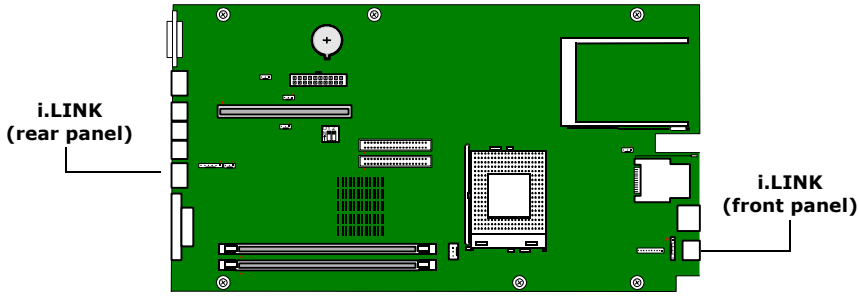
Pin	*Signal Name*
1	Ground
2	TA1+
3	TA1-
4	TB1+
5	TB1-
6	Ground

IEEE1394 interface header connector (front panel)	
Pin	*Signal Name*
1	Ground
2	TPA2+
3	TPA2-
4	TPB2+
5	TPB2-
6	Ground

i.LINK Connectors

The system board has two i.LINK (IEEE1394) connectors: a 4-pin connector is accessible from the front panel, and a 6-pin connector is accessible from the rear panel.

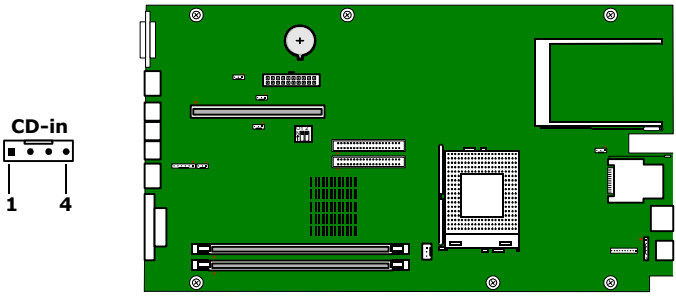
Use the front-panel connector to connect to devices that use a 4-pin i.LINK (IEEE1394) connector. Use the rear-panel connector to connect to devices that use a 6-pin* i.LINK (IEEE1394) connector.



* A 6-pin i.LINK connector can supply power from the computer to the device if the device also has a 6-pin i.LINK connector. A 4-pin i.LINK connector cannot supply power to a device.

CD-In Connector

The system board has a CD-In connector that connects to the CD-RW/DVD combo drive.



CD-In connector

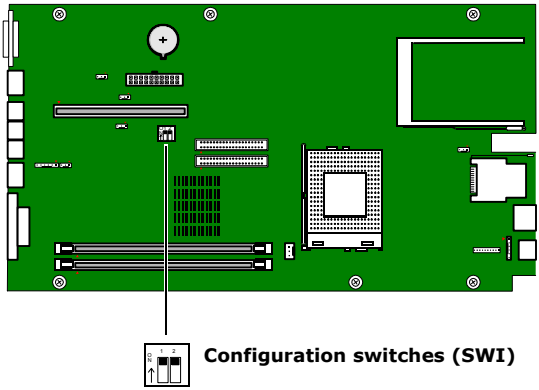
Pin	Signal Name
1	Left CD-In
2	Ground
3	Ground
4	Right CD-In

Configuration Switches

A two-switch dual-inline package (DIP) provides configuration settings for clearing the CMOS password and enabling or disabling the onboard VGA interrupt (VGA_INT).

The computer ships with the CMOS switch (#1) set to OFF (Normal) and the VGA_INT switch (#2) set to OFF (Disable).

Do not change the position of any switch unless directed by a Sony-authorized technical support person.



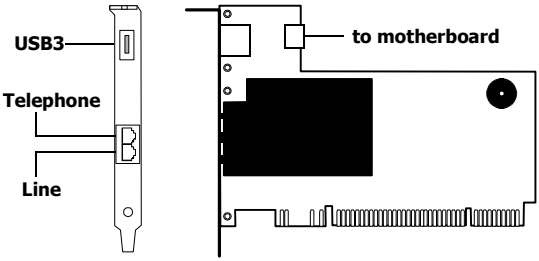
Configuration switches (SWI)

Switch #	Name	On	Off
1	CMOS	Clear password	Normal
2	AGP_INT	Enable	Disable

Chapter 5
Fax/Modem Card

This card combines a Lucent 1648/V.90-compatible data fax/modem and a USB connector, and occupies PCI slot #2 in the riser card.

The fax/modem uses two RJ-11 jacks: one to connect a telephone line, and one to connect a phone. A USB connector (USB3) is also located on this card.



Name	Connector Type	Description
TELEPHONE	RJ-11	Connects to phone.
LINE	RJ-11	Connects to telephone line.
USB3	USB	Connects to USB devices.

Chapter 6
CMOS Setup Options

This chapter describes each screen in the Award BIOS Setup Utility (see "Accessing the CMOS Setup Utility" on page 16).

The Award BIOS setup has five menu items on the menu bar. These are:

- Main
- Advanced
- Power
- Boot
- Exit

Options that you can change are enclosed in brackets. Text that is not enclosed in brackets cannot be changed.

A small triangle (▸) indicates that there is a sub-menu with additional information and options. Press Enter to display the sub-menu. The information and options in a sub-menu are context-sensitive (they appear or disappear, depending on which options you select).

The item shown in [brackets] in this guide is the default option. The option shown in [brackets] on the screen is the option currently set for your system.

The other available options for each item are shown without brackets directly below the default option in this guide. The available options are listed in the order they occur when you press the + key.

Use the left and right arrow keys to choose a menu item. Use the up and down arrow keys to select an option. Press Enter to display a list of options, or press the + or - key to cycle through the other options.

If you display the list of options, use the up and down arrow keys to select an option in the list, then press Enter to apply the selection.

Press Esc to go back to the main menu.

Press F10 to save the changes and exit, or press Esc to discard the changes.

Follow the on-screen prompts for other choices. The bottom of the screen presents a summary of the keys to use for navigation and control.

Main Screen

System Time	[00:00:00]
System Date	[01/01/2001]
Legacy Diskette A	[None] 360 K, 5.25 in. 1.2 M, 5.25 in. 720 K, 3.5 in. 1.44 M, 3.5 in. 2.88 M, 3.5 in.

- Primary Master (see "IDE Sub-Menus" on page 68)
- Primary Slave (see "IDE Sub-Menus" on page 68)
- Secondary Master (see "IDE Sub-Menus" on page 68)
- Secondary Slave (see "IDE Sub-Menus" on page 68)
- Keyboard Features (see xref to keyboard features)

Language	[English]
Supervisor Password	[Disabled]
User Password	[Disabled]
Halt On	[All but Keyboard] All but Disk All but Disk/Keyboard All Errors No Error
Installed Memory	128 MB (depends on model)

▸IDE Sub-Menus

Type	[Auto] User Type HDD CD-RW/DVD combo LS-120 ZIP-100 MO Other ATAPI Device None
Cylinders*	[1024]
Heads†	[255]
Sectors†	[63]
CHS Capacity*	8422 MB
Maximum LBA Capacity*	40020 MB (actual size depends on model)
Multi-Sector Transfers*	[Maximum] Disabled 2 Sectors 4 Sectors 8 Sectors 16 Sectors 32 Sectors
SMART Monitoring*	[Disabled] Enabled
PIO Mode‡	[4] 0 1 2 3
ULTRA DMA Mode†	[4] Disabled 0 1 2 3
Set Device As**	[Auto] Floppy Hard Disk

* This option appears when Type is set to Auto or User Type HDD.
† This option appears when Type is set to Auto or User Type HDD.
‡ This option appears when Type is not set to None.
** This option appears when Type is set to ZIP-100 or MO.

▸Keyboard Features Sub-Menu

Boot Up NumLock Status	[On] Off
Keyboard Auto-Repeat Rate	[12/Sec] 15/Sec 20/Sec 24/Sec 30/Sec 6/Sec 8/Sec 10/Sec
Keyboard Auto-Repeat Delay	[1/4 Sec] 1/2 Sec 3/4 Sec 1 Sec

Advanced Screen

Current CPU Internal Frequency	1B GHz (depends on model)
CPU Frequency Mutiple	[7.5x]
FSB/SDRAM Freq. (MHz)	[133/133]
CPU Level 1 Cache	[Enabled] Disabled
CPU Level 2 Cache	[Enabled] Disabled
CPU Level 2 Cache ECC Check	[Disabled] Enabled
Processor Serial Number	[Disabled] Enabled
BIOS Update	[Enabled] Disabled
PS/2 Mouse Function Control	[Auto] Enabled
USB Legacy Support	[Auto] Disabled Enabled
OS/2 Onboard Memory > 64M	[Disabled] Enabled

- Chip Configuration (see "Chip Configuration Sub-Menu" on page 71)
- I/O Device Configuration (see "I/O Device Configuration Sub-Menu" on page 73)
- PCI Configuration (see "PCI Configuration Sub-Menu" on page 73)
- Shadow Configuration (see "Shadow Configuration Sub-Menu" on page 74)

- Chip Configuration Sub-Menu

SDRAM Timing	[By SPD] User Define
SDRAM CAS Latency	[3 T]
SDRAM RAS to CAS Delay	[4 T]
SDRAM RAS Precharge Time	[3 T]
Refresh RAS Assertion	[5 T] 4 T 6 T 7 T
Refresh Queue Depth	[12] 0 4 8
SDRAM Refresh Mode	[Simultaneous] Staggered 1T
Memory Hole At Address	[None] 15 M-16 M 14 M-16 M 12 M-16 M
Video Memory Cache Mode	[USWC] UC
Graphics Aperture Size	[64 MB] 128 MB 256 MB 4 MB 8 MB 16 MB 32 MB
VGA Shared Memory Size	[16 MB] 8 MB 32 MB 64 MB 2 MB 4 MB

VGA LCD TV Display Type	[Auto (BIOS Default)] CRT1 Only Composite NTSC CRT1 + Composite NTSC Composite PAL CRT1 + Composite PAL S-Video NTSC CRT1 + S-Video NTSC S-Video PAL CRT1 + S-Video PAL SCART CRT1 + SCART LCD with Scaling CRT1 + LCD with Scaling LCD without Scaling CRT1 + LCD without Scaling CRT2 CRT1 + CRT2 Hi-Vision TV CRT1 + Hi-Vision TV
PCI 2.1 Support	[Enabled] Disabled
ISA Bus Clock	[PCICLK/4] 7.159 MHz
Onboard PCI IDE Enable	[Both} Primary Secondary Disabled
USB Function	[Enabled] Disabled
Onboard LAN	[Enabled] Disabled
Onboard LAN Boot ROM	[Disabled] Enabled
Onboard 1394 Controller	[Enabled] Disabled
Onboard PCMCIA Controller	[Enabled] Disabled

▸I/O Device Configuration Sub-Menu

Onboard AC97 Audio Controller	[Enabled] Disabled
Onboard Serial Port 1	[Disabled] 3F8H/IRQ4 2F8H/IRQ3 3E8H/IRQ4 2E8H/IRQ10
Onboard Serial Port 2	[2F8H/IRQ3] 3E8H/IRQ4 2E8H/IRQ10 Disabled 3F8H/IRQ4
Onboard Parallel Port	[Disabled] 3BCH/IRQ7 378H/IRQ7 278H/IRQ5

▸ PCI Configuration Sub-Menu

Slot 1 IRQ	[Auto] NA
and	3 4
Slot 2 IRQ	5 7 9 10 11 12 14 15
PCI/VGA Palette Snoop	[Disabled] Enabled
PCI Latency Timer	[32]
SYMBIOS SCSI BIOS	[Auto] Disabled
ONB VGA BIOS First	[No] Yes

▸ Shadow Configuration Sub-Menu

Video ROM BIOS Shadow	[Enabled] Disabled
C8000-CBFFF Shadow	[Disabled] Enabled
CC000-CFFFF Shadow	[Disabled] Enabled
D0000-D3FFF Shadow	[Disabled] Enabled
D4000-D7FFF Shadow	[Disabled] Enabled
D8000-DBFFF Shadow	[Disabled] Enabled
DC000-DFFFF Shadow	[Disabled] Enabled

Power Screen

Power Management	[User Define] Disabled Min Saving Max Saving
Video Off Option	[Suspend -> Off] Always On
Video Method	[DPMS OFF] DPMS Reduce ON Blank Screen V/H SYNC+Blank DPMS Stand by DPMS Suspend
HDD Power Down	[Disabled] 1 Min 2 Min 3 Min 4 Min 5 Min 6 Min 7 Min 8 Min 9 Min 10 Min 11 Min 12 Min 13 Min 14 Min 15 Min
ACPI Mode	[S3] S1
PS/2 Mouse Wake For S1	[Disabled] Enabled
Suspend Mode	[Disabled] 1~2 Min 2~3 Min 4~5 Min 8~9 Min 20 Min 30 Min 40 Min 1 Hour
PWR Button < 4 Secs	[Soft Off] Suspend

▸Power Up Control

AC PWR Loss Restart	[Disabled] Enabled
Automatic PWR Up	[Disabled] Everyday By Date

▸HardWare Monitor

MB Temperature	[(displays actual temperature)] Ignore
CPU Temperature	[(displays actual temperature)] Ignore
Power Fan Speed	[(displays actual RPM)] Ignore
CPU Fan Speed	[(displays actual RPM)] Ignore
VCORE Voltage	[(displays actual voltage)] Ignore
+3.3 V Voltage	[(displays actual voltage)] Ignore
+5 V Voltage	[(displays actual voltage)] Ignore
+12 V Voltage	[(displays actual voltage)] Ignore
-12 V Voltage	[(displays actual voltage)] Ignore

Boot Screen

1. ATAPI CD-ROM	[(displays installed drive)] Disabled
2. Removable Device	[USB FDD] USB ZIP Disabled Legacy Floppy LS120 ZIP-100 ATAPI MO
3. IDE Hard Drive	[(displays installed drive)] Disabled
4. Other Boot Device	[INT18 Device (Network)] SCSI Boot Device Disabled
Plug & Play O/S	[No] Yes
Boot Virus Detection	[Enabled] Disabled
Quick Power On Self Test	[Enabled] Disabled
Silent Boot	[Enabled] Disabled

Exit Screen

Exit Saving Changes

Exit Discarding Changes

Load Setup Defaults

Discard Changes

Save Changes

Chapter 7
Miscellaneous Technical Information

This chapter contains information on the following subjects:

- User and Supervisor password
- Beep code error messages
- PCI configuration status and error messages
- DMA channel assignments
- IRQ assignments
- System I/O address map
- Memory map

About User and Supervisor Passwords

The system allows you to specify up to two passwords (a User password and a Supervisor password) in the BIOS Setup Utility. The User password is required; the Supervisor password is optional.

Access to the BIOS Setup Utility depends on which passwords were previously set, as indicated next.

If you set these passwords...	*...the following passwords are required:*
User password only	User password is required at bootup.
Supervisor password only	No password is required at bootup. Supervisor password is required by most setup options.
Both passwords	User password is required at bootup. Supervisor password is required by most setup options.

Beep Code Error Messages

During a normal bootup, a single short beep signifies that the system is OK. Other beep patterns signify errors. The number of beeps indicates the specific error that occurred.

The Sony Online Support technical representative will need to know how many beeps your system produces if there is an error, so count the number of beeps before calling for support.

PCI Configuration Status and Error Messages

The following is a list of status and error messages that may appear on your system from time to time.

Message	Meaning
Floppy Disk Controller Resource Conflict	The floppy disk controller has requested a resource that is already in use.
CMOS Checksum Error, CMOS Cleared	The CMOS data was reinitialized due to a CMOS checksum error.
CMOS Data Invalid, CMOS Cleared	Invalid entry in the CMOS.
Parallel Port Resource Conflict	The parallel port has requested a resource that is already in use.
PCI Error Log is Full	This message is displayed when more than 15 PCI conflict errors are detected. No additional PCI errors can be logged.
PCI I/O Port Conflict	Two devices requested the same resource, resulting in a conflict.
PCI IRQ Conflict	Two devices requested the same resource, resulting in a conflict.
PCI Memory Conflict	Two devices requested the same resource, resulting in a conflict.
Primary Boot Device Not Found	The designated primary boot device (hard disk drive, floppy disk drive, DVD-ROM drive, or network drive) could not be found.
Primary IDE Controller Resource Conflict	The primary IDE controller has requested a resource that is already in use.
Primary Input Device Not Found	The designated primary input device (keyboard, mouse, or other, if input is redirected) could not be found.
Primary Output Device Not Found	The designated primary output device (display, serial port, or other, if input is redirected) could not be found.
Secondary IDE Controller Resource Conflict	The secondary IDE controller has requested a resource that is already in use.
Serial Port 1 Resource Conflict	Serial port 1 has requested a resource that is already in use.

DMA Channel Assignments

This shows the factory default values. Windows Me™ reassigns resources to best meet the needs of a particular configuration.

DMA Channel	Default Assignment
4	Direct memory access controller

IRQ Assignments

IRQ #	Default Assignment
00	System timer
01	Standard 101/102-Key or Microsoft Natural Keyboard
02	Programmable interrupt controller
03	Communications port (COM2)
04	Sony OHCI i.LINK(IEEE1394) PCI host controller
04	SiS 900 PCI fast Ethernet adapter
04	ACPI IRQ holder for PCI IRQ steering
07	SiS 7001 PCI to USB open host controller
07	ACPI IRQ holder for PCI IRQ steering
07	SiS 7001 PCI to USB open host controller
08	System CMOS/real time clock
09	SCI IRQ used by ACPI bus
10	Sony PCI to Memory Stick I/F controller
10	SiS 7018 audio driver
10	ACPI IRQ holder for PCI IRQ steering
10	Ricoh RL5C475 CardBus controller
11	WDM communication device
11	ACPI IRQ holder for PCI IRQ steering
11	SiS 630
12	PS/2-compatible mouse port
13	Numeric data processor
14	SiS 5513 dual PCI IDE controller
14	Primary IDE controller (dual FIFO)
15	SiS 5513 dual PCI IDE controller
15	Secondary IDE controller (dual FIFO)

✍ This shows the factory default values. Windows Me™ will reassign resources to best meet the needs of a particular configuration. PCI IRQs can be shared between several PCI devices.

System I/O Address Map

Address Range (hex)	Description
0000h - 000Fh	Direct memory access controller
0010h - 001Fh	Motherboard resources
0020h - 0021h	Programmable interrupt controller
0022h - 002Dh	Motherboard resources
0030h - 003Fh	Motherboard resources
0040h - 0043h	System timer
0044h - 005Fh	Motherboard resources.
0060h - 0060h	Standard 101/102-Key or Microsoft Natural Keyboard
0061h - 0061h	System speaker
0062h - 0063h	Motherboard resources
0064h - 0064h	Standard 101/102-Key or Microsoft Natural Keyboard
0065h - 006Fh	Motherboard resources
0070h - 0073h	System CMOS/real time clock
0074h - 007Fh	Motherboard resources
0080h - 0090h	Direct memory access controller
0091h - 0093h	Motherboard resources
0094h - 009Fh	Direct memory access controller
00A0h - 00A1h	Programmable interrupt controller
00A2h - 00BFh	Motherboard resources
00C0h - 00DFh	Direct memory access controller
00E0h - 00EFh	Motherboard resources
00F0h - 00FFh	Numeric data processor
0170h - 0177h	Secondary IDE controller (dual FIFO)
0170h - 0177h	SiS 5513 dual PCI IDE controller
01F0h - 01F7h	Primary IDE controller (dual FIFO)
01F0h - 01F7h	SiS 5513 dual PCI IDE controller
0290h - 0297h	Motherboard resources
02F8h - 02FFh	Communications port (COM2)
0376h - 0376h	SiS 5513 dual PCI IDE controller
0376h - 0376h	Secondary IDE controller (dual FIFO)
03B0h - 03BBh	SiS 630
03C0h - 03DFh	SiS 630

Address Range (hex)	Description
03F0h - 03F1h	Motherboard resources
03F2h - 03F2h	In use by unknown device
03F6h - 03F6h	SiS 5513 dual PCI IDE controller
03F6h - 03F6h	Primary IDE controller (dual FIFO)
0480h - 048Fh	Motherboard resources
04D0h - 04D1h	Motherboard resources
0CF8h - 0CFFh	PCI bus
8400h - 84FFh	WDM communication device
8800h - 8807h	WDM communication device
9000h - 9FFFh	SiS accelerated graphics port
9800h - 987Fh	SiS 630
A800h - A8FFh	SiS 7018 audio driver
B000h - B0FFh	SiS 900 PCI fast Ethernet adapter
B400h - B407h	Primary IDE controller (dual FIFO)
B400h - B40Fh	SiS 5513 dual PCI IDE controller
B408h - B40Fh	Secondary IDE controller (dual FIFO)
E400h - E4FEh	Motherboard resources

Memory Map

Address Range	Description
00000000h - 0009FFFFh	System board extension for ACPI BIOS
000A0000h - 000AFFFFh	SiS 630
000B0000h - 000BFFFFh	SiS 630
000C0000h - 000CBFFFh	SiS 630
000CC000h - 000CFFFFh	Unavailable for use by devices
000F0000h - 000FFFFFh	System board extension for ACPI BIOS
00100000h - 06FFFFFFh	System board extension for ACPI BIOS
07000000h - 07000FFFh*	PCMCIA card services
07800000h - 07800FFFh	Ricoh RL5C475 CardBus controller
CB800000h - CB8000FFh	WDM communication device
CC000000h - CC003FFFh	Sony OHCI i.LINK(IEEE1394) PCI host controller.
CC800000h - CC8007FFh	Sony OHCI i.LINK(IEEE1394) PCI host controller
CD000000h - CD0003FFh	Sony PCI to Memory Stick I/F controller
CD800000h - CD81FFFFh	SiS 630
CD800000h - CDFFFFFFh	SiS accelerated graphics port
CE000000h - CE000FFFh	SiS 7018 audio driver
CE800000h - CE800FFFh	SiS 7001 PCI to USB open host controller
CF000000h - CF000FFFh	SiS 7001 PCI to USB open host controller
CF800000h - CF800FFFh	SiS 900 PCI fast Ethernet adapter
D0000000h - D7FFFFFFh	PCI standard host CPU bridge
D8000000h - DFFFFFFFh	SiS 630
D8000000h - E7EFFFFFh	SiS accelerated graphics port
FFEE0000h - FFEFFFFFh	System board extension for ACPI BIOS
FFFE0000h - FFFFFFFFh	System board extension for ACPI BIOS

* Appears only when a PCI card is installed.

Chapter 8
Specifications

This chapter describes the technical specifications for the Sony PCV-LX810/PCV-LX910 computer.

Processor

1 B GHz* Intel® Pentium® III processor (with 133 MHz FSB)

* MHz denotes microprocessor internal clock speed. Other factors may affect application performance.

Chipset

SiS630 chipset

PCI Bus

PCI Level 2.1, 33 MHz zero wait state
2 PCI slots (one open)

Memory Modules (DIMMs)

Installed memory	128 MB SDRAM*
Maximum memory	512 MB (256 MB in each socket)
Voltage	3.3 V memory only
Pins	168-pins with gold-plated contacts
SDRAM type	3.3 V PC-133 MHz unrestricted CAS latency 2, unbuffered, 64 bits (non-ECC) SDRAM DIMM modules

* 16 MB allocated to video RAM.

DIMM Configurations

DIMM1*	DIMM2*
0, 16, 32, 64, 128, 256	0, 16, 32, 64, 128, 256

* The PCV-LX810/PCV-LX910 is shipped with 128 MB of total memory. SDRAM is expandable to 512 MB. Computer SDRAM is unbuffered DIMM, specification Rev. 1.0 or later. PCV-LX810/PCV-LX910 supports SDRAM memory. PCV-LX810/PCV-LX910 does not support EDO memory or buffered DIMM memory. Memory can be installed in either socket. Memory size can vary between sockets. DIMMs can be single- or double-sided. DIMMs must be 3.3 V unbuffered 4-clock, 64-bit or 72-bit, 133 MHz SDRAM module. Use only 133 MHz memory. Do not mix 100 MHz memory with 133 MHz memory.

L2 Cache

Installed	256 KB secondary write-back cache (in processor), direct-mapped organization, on-chip cache
Controller	SiS630 host bridge controller

Graphics

Controller*	SiS630 graphics hardware acceleration
Video memory	16 MB (uses system memory)
Resolution (displayed resolution depends on the graphics display you use)	
True color (32 bits)	Up to 1600 x 1280 at 85 Hz non-interlaced
High color (16 bits)	Up to 2048 x 1536 at 70 Hz non-interlaced
256 colors (8 bits)	Up to 2048 x 1536 at 70 Hz non-interlaced

* Supports DDC-1 and DDC-2b standards for Plug and Play displays.

Audio

Sound chip	SiS7018 sound controller plus AC97
Wave synthesis	SiS7018
Sound effects	DirectSound-compatible
Audio sampling rate	Up to 48 kHz at 16 bits
Front panel	Mic (for microphone) Phones (for stereo headphone)
Rear panel	Line In (from audio output connector)

Communications

Modem	Lucent 1648/V.90-compatible data/fax modem*
Fax	14.4 Kbps maximum

* Due to FCC limitations, the maximum permissible data speed is 53 Kbps during download transmissions. Actual data speeds may vary due to a variety of factors.

I/O and Expansion Slots

Modem ports	Two RJ-11 connectors at rear panel for line and phone
USB ports	USB1, USB2, and USB3 at rear panel, and USB4 at front panel
PCI slots	One available slot. Maximum length for add-in cards is 6.6 inches
IDE connectors	Primary and secondary

i.LINK Interface

Ports	Two (one at front panel, one at rear panel)
Speed	Up to 400 Mbps
Chipset	TI TSB12LV22 and TSB41LV03 OHCI
Enable/disable function	From BIOS

Ethernet Interface

Connector	RJ-45 (on rear panel)
Type of LAN	Ethernet
Speed	10Base-T/100Base-TX

Drives and Controllers

Diskette controller	82077-compatible (supports up to 2.88 MB)
Diskette drive	1.44 MB 3.5-inch MFDD
EIDE controller	Supports PIO Mode 4 EIDE drives and Ultra DMA/66 Mode drives
IDE hard drive*	40.0 GB†
CD-RW/DVD combo drive	
CD-RW read‡	24X maximum performance
CD-RW write**	4X maximum performance
CD-R read††	32X maximum performance
CD-R write‡‡	8X maximum performance
CD-ROM read***	32X maximum performance
DVD-ROM read†††	8X maximum performance

* Bus-mastering EIDE driver installed.

† GB means one billion bytes when referring to hard drive capacity. Accessible capacity may vary.

‡ The maximum CD-RW reading speed is 24X.

** The CD-RW writing speed may vary, depending on the media. The maximum CD-RW writing speed is 4X.

†† Data on the CD-R is read at a variable transfer rate, ranging from 13X at the innermost track to 32X at the outermost track (the data transfer standard 1X rate is 150 KBps). The average data transfer rate is 22.5X (3375 KBps).

‡‡ The maximum CD-R writing speed is 8X (1X = 150 KBps).

*** The maximum CD-ROM reading speed is 32X.

††† The maximum DVD-ROM reading speed is 8X.

System CMOS

Make and model	Award
ROM	2 Mb flash-ROM
Passwords	User and supervisor passwords supported
Recovery boot block	Supported
Power management	APM 1.2
Advanced features	ACPI-1.0 compliant hardware for use with APM and PNP BIOS APIs
Plug and Play devices	Supported with steerable DMA channels and interrupts
Special features	PC-99 compliant, multi-boot, PCI add-in card auto-configure

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